Analyzing Urban Growth and Management for the City of Tripoli, Libya

By

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Abstract

This study focuses on the urban growth and management of the city of Tripoli, Libya with an emphasis on the contribution of the economic, social, and political factors in urbanization. Despite the fact that urban planning authorities established and developed several projects and planning generation series, there have been such issues and challenges tackling the fast growth of urban centers, which resulted in population concentration and shortage of services such as housing. This has led to a massive and random expansion in urban areas, which has eliminated huge agricultural and green spaces in favor of new urban areas. Based on archival data, interviews, and very close knowledge of the study area, I argue that there have been constant difficulties in managing and controlling the urban expansion within urban centers in general and Tripoli in particular. In this study, I examined the role of each factor of urban growth and urbanization in the Libyan case compared to Africa in general in line with the theories of Myers (2011), Beall and Fox (2009), Forester (1998), and others. Furthermore, I addressed the question of whether the rapid growth of the city of Tripoli is related to the urban policy and planning strategies through the emphasis on laws and regulations. Planners have stressed reforming the urban planning system and developing a solid relationship with political power and enhancing the role of technology toward developing a modern planning system. Finally, I attempted to focus on the involvement of politics in the urban planning system, which was inspired by the deep and strong role of the social system. There has been a remarkable degree of social and political interference in planning, which has weakened the democratic process and resulted in very corrupt and disorganized urban planning practices, which will be a very important topic for further research.

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Dedication

My father and mother, you have been patiently waiting for my successful return, without your support and supplication, this work would be much harder.

To my wife, your support has been always a source of success during our stay in the U.S and taking care of our son Mohamed and daughter Ayah, who always wonder when I am going to finish; this day has come true dears.

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Chapter 1: Introduction

In a country like Libya, where the desert dominates, arable land is limited, and climatic variability greatly affects people's lives, urban planning must be a high priority. Furthermore, due to desertification, Libya has very limited areas for agriculture; the arable land is only 1.03% (CIA, The World Fact Book, Libya). This condition has increased the population concentration in urban centers in the coastal region causing a disparity in population and services between urban and rural areas. This disparity in the country has been a concern for urban growth and management. For the purpose of this study, the role of physical and human factors on the overall picture of Libyan urbanization and Tripoli in particular is examined.

Investigating the role of politics in planning generally and urban planning in particular is crucial. It is also important to have a tool that monitors rapid changes in urban areas in order to provide accurate, up–to–date information for policy and decision-making processes. Remote sensing is this essential tool; it provides information on urban land-use change over time, which can be compared with planning and management regimes in place at each specific time. Remote sensing provides the link between planning and development research and the policy-makers and practitioners. It provides a true description of urbanization, the process of natural increase and population movements in the urban complex. Integrating these three topics - urbanization and urban growth, urban planning policy, and urban remote sensing - is central to my analysis of urban growth for Tripoli as a case study of Northern African cities.

1.1 Background

Tripoli, the capital city of Libya, is located in the northwest of the country (between latitude 32 83 and 32 91 N, and longitude 13 12 W and 13 36 E) and is situated 190 km east of the border with Tunisia. It has over one million people in its limited area, which is around 850 square kilometers. It is the largest city and the commercial and manufacturing center of Libya (*Figure* 1.1). Tripoli is a principal seaport; there is some industry mainly for domestic consumption: olive oil extraction, tomatoes, and carpets. Tripoli was founded by the Phoenicians in the 7th century BC and was originally named Oea. Tripoli is often referred to as Tarablus al-Gharb (Western Tripoli) to distinguish it from Lebanon's Tripoli.

Source: www.google.com

Figure 1.1 Location of Libya and its major cities.

1.2 Literature Review

This dissertation looks at Tripoli through three themes: urbanization, urban growth, and urban planning policy. Each of these themes is outlined below in terms of the literature and research contribution to each idea.

Urbanization can be defined as an increasing proportion of the total population that lives in urban areas at local, regional, and national levels including and patterns of the urban growth process. Urbanization is a relatively recent phenomenon at the global level in western countries such as Britain, Eastern Europe and the U.S. In the rest of the world, urbanization was long insignificant, because less than 3% of population lived in cities prior to the 20th century. (Pacione, 005). Recently, urbanization became an international phenomenon as different regions in the world have been urbanized rapidly. Urban growth is caused by two factors: the natural increase rate for the urban population and the net in-migration from rural to urban areas. Looking at a global perspective of the matter, the differences in urbanization rates throughout the world regions provide evidence of the relationship between urbanization and industrialization; the largest cities are in the world's largest economies (the U.S., Japan, and Western Europe) and the rapidly industrializing semi-periphery countries (such as Brazil, India, Mexico, South Korea, China, and Argentina). As industrial manufacturing has shifted to these semi-periphery states, so too has the table of the world's largest cities shifted that way (Pacione, 2005).

Barney Cohen (2004) reviewed the current trends in urban growth in developing countries in his article on urban growth in developing countries. He stressed the importance of studying urban population growth in developing countries in attempting to understand the negative effects of internal migration from rural to urban areas. Cohen focused on urban population dynamics and the challenges that face governments and urban planners due to an increase of urban populations.

Urban population reached 2.86 billion in 2000 and will increase to 4.98 billion by 2030 (Cohen, 2004). Asia and Africa are the highest regions in terms of urban population growth, and will continue dominating urban growth globally (UN-Habitat, World's Cities Report, 2006, p.6).

In Africa, for instance, there are notable dramatic changes in rural and urban population. Urban areas held only 15% of total population in 1950 while the number of people in urban environments increased from 29% in 1980 to 40% in 2009. The growth changed the urban population from 50 million in 1950 to 155 million in 1980, 300 million in 2000, and about 395 million in 2009. In the near future, the continent's urban population is expected to increase further, reaching 53.5% by 2030 and 60% by 2050 (UN-Habitat, State of African Cities, 2010, p.1). Cohen referred to the increase in urban population in Northern Africa and the Middle Eastern regions as the home for some of the world's old cities.

Africa is a continent that contains socioeconomic and political heterogeneity, with both open and isolated societies. Research shows that Africa's high rates of urbanization since the 1950s have not run parallel to high rates of industrial job growth. These phenomena – extremely high urbanization rates amidst the general lack of corresponding broad-based economic growth – are the key dynamics behind the interest in the Libyan case as an example for North Africa.

Kempe Ronald Hope, in his article on "Urbanization and Urban Growth in Africa" (1998) mentioned that Africa had experienced rapid urbanization in the three previous decades at the expense of agricultural and rural development. He called it "over-urbanization". Hope argued that there are three pull factors that caused the phenomenon of over-urbanization in Africa. First, the natural population increased because of enhanced public health services and individual education. The second cause was rural-urban migration, as migrants searched for a better life through economic betterment, better employment, and higher income opportunities; many African city

employees earn three to four times higher salaries than rural ones. In Zambia, the average urban wage was 2.3 times higher than the rural; in Swaziland, it was 5.2 times higher, based on UNDP data during 1990s. Third, the availability of educational facilities is a major reason for migration to urban areas. These factors have continued to be significant in the 17 years since Hope's article (Parnell and Pieterse, 2014).

Selectivity is a demographic factor that has dominated the African pattern of migration, in which young adults from rural regions who tend to be well educated and highly motivated can get good governmental jobs in major cities. As a result, Sub-Saharan cities have faced rising population, causing pressure on services, land ownership, security uncertainties, and poor land use strategies, which has caused environmental resources degradation. Hope (1998) stressed the consequences of rapid urbanization in African cities. Over-urbanization has led to high rates of unemployment and underemployment mostly among urban natives compared to migrants - who accept lower level jobs – creating greater social instability, and causing disintegration of family unity. The cities become unable to provide services or to meet growing demands of residents based on several difficulties, such as inadequate housing, traffic congestion, and environmental pollution. In spite of all these difficulties, there has been an urban bias (rural areas lagging behind urban areas) in terms of access to basic services and reinforcing the poverty at higher rates within rural areas. Rural areas have faced major constraints every day. In Sub-Saharan Africa for instance, the accessibility to health services, safe water, and sanitation are at half of those urban areas (Njoh, 2003). There is substantial environmental and economic deterioration in many African rural areas.

These processes and consequences above are notable and predominate in Northern African cities, too, and particularly within the large Libyan cities. They appear alongside the impacts that have occurred since the late 1970s and 1980s as the outcome of development planning projects

made possible by oil revenues. The revenues of oil directed into urban development enhance the living standards of urban areas primarily and rural areas secondarily. This research investigated the role of socioeconomic factors that accelerate the urban growth and their impact on regional and sub-regional planning processes and practices. In this regard, the second chapter emphasizes the role of economic growth and urbanization including oil revenues and social transformation. There has been a strong shift for those who move to large cities in terms of urban life as they seek new jobs in services and leave behind their old traditional lifestyle.

Cesar Chelala (2010) stressed the myriad impacts on urban life from extensive migration to cities. He defined urban migration as searching for a better life. He mentioned the lack of basic services and food insecurity as the drivers of migration from rural to urban areas in Africa; during the last two decades, approximately 10 million people in Africa were displaced by increasing desertification and its consequences on agricultural production. These people have been forced to migrate to urban areas to search for a better life. Migrants suffer from several problems in their rural areas such as environmental degradation, poverty, political persecution, and religious strife. In some parts of Africa, of course, conditions proved equally poor in cities, and migrants returned to rural areas, or engaged in an uncertain straddling between rural and urban poverty (Potts 2005).

Libya's urbanization process began conventionally by comparison to many other African countries. In 1967, Robert Harrison conducted a study of migrants and growth in the city of Tripoli. He mentioned the draw of migrants toward the cities of North Africa during the 1950s and 1960s because they were centers of manufacturing. He indicated that during the 1950s, industry in Libya was concentrated in two cities, Tripoli and Benghazi, and 79% of the industrial labor force was in Tripoli. Industry was limited to the processing of agricultural products. The population in Tripoli was heavily concentrated because of the availability of services in the old city. Harrison mentioned

how education was another reason for migration. People move to cities to pursue higher education; Libyans moved to Tripoli to attend technical colleges and institutes or the university so that they could have opportunities for good jobs in the city. According to estimates during the Italian colonization (1915 – 1936), more than 100,000 migrants entered Tripoli (Harrison, 1967, p. 405).

Tripoli in particular has been receiving thousands of migrants every year since 1930s, and the rate of urbanization has risen, steadily affecting the accessibility to services and producing urbanization trends more similar to those of other African countries. This resulted in housing shortages and the spread of urban sprawl in Tripoli. In order to measure the migration flow, this research determines the migration role as a component of urbanization and a secondary factor, in addition to the natural growth, behind the rapid growth during the last three decades within the urban system of Libya. Despite the fact that the Libyan urban growth rate has slowed, urban population has increased and the rural-urban population proportions have practically been transposed: whereas the urbanization rate was 49.7% in 1970, it had risen to 77.9% in 2010. Libyan economic development has depended on oil revenues since late 1960s, and the government directed the surplus to huge infrastructure projects from the 1980s onward. Since oil was first discovered, it has been the principal resource and income of the country.

Economically, Libya had been rising until the last few years, because of petrodollar assets, which assist in spreading the urban growth through real estate bank loans. In order to minimize the effects of the enduring housing shortage, the ministry of planning enforced several procedures for more accessible loans through banks and youth organizations. The loan processes and procedures mostly occur in an ambiguous pattern, which affects the role of planning supervision.

The outcome of the new growth is the widespread emergence of unplanned areas with insufficient infrastructure and in many cases unplanned urban sprawl. The role of planning policy

had been weakened under Libya's political system (until 2011); in many cases, the planning decisions have been influenced by politics, which consistently affects the urban planning laws and regulations. In order to explain the laws and regulations and their relations to politics, I touched on the laws and regulations as the frame for urban planning and their role in controlling – or failing to control - unplanned sprawl.

1.3 Urban Planning Policy and Management

Urban planning and management skills are crucial for analyzing data pertaining to regional planning and development. "Policy analysis is a means of synthesizing information including research results to produce a format for decision makers" (Weimer and Vining, 2005, p.24). Weimer and Vining introduce *how* and *why* we practice planning policies. Their work is about the idea of how management practices assist in advanced application in planning and development; the main mission of policy analysis is to provide rationales by detecting any limitations or failures in the policy practices. Urban policy is considered a product of the power relationship between the different interest groups within a society. Urban policy aims to improve the availability of information to the public and to minimize the social effects on the land and development as more people move to urban areas and build networks based on their origins. In addition, creating a good political democratic environment where planning authorities connects well with political authority, is a very important goal of urban policy, where land use and development are determined by people and their daily needs. Urban policy is required in terms of long-term planning and management to reach goals that concentrate on managing the land use change to assist in striking a balance between social, environmental and economic priorities. Sustainability of urban development has two main approaches. The first seeks environmental

protection to reduce the consumption of resources in addition to minimizing the environmental impact of development. The second is a holistic approach, which includes an ecological component: (environmentally sound policies with economic aspects, as well as a concern for social-equity issues which concentrate on balanced distribution of resources and the distributional impact of policies). These aims are characterized by three factor(s): first, environmental integrity (clean air, soil and water) in long term sustainability; second, economic vitality, in the responses of the economy to changes under any circumstances; and third, social well-being, in terms of safety, health, and housing accessibility (Pacione, 2005).

It is important to illustrate how to approach the negative effects of unsuccessful planning policies and provide general and specific solutions for the current problems. Charles Wolf (1999) investigated the idea of government failure in planning policies in a study regarding governmental policy and classified policy implementation and problems of bureaucratic supply. The disadvantages of planning policies are similar to the concept of economic failure. When this happens, practices of rules and laws in addition to the failure to improve efficiency of services become restrained. In addition, failure occurs when the government fails to accomplish local and regional planning goals. This theory helps to understand problems and improve implementations to make better decisions and apply comprehensive planning strategies (Weimer & Vining, 1999).

Basudeb Bhatta argues that is not enough to have planning policies; enforcing and implementing the policies successfully is more important. Urban sprawl is caused by the absence of consistent and well-experimented policies, as well as the lack of policy enforcement (Bhatta, 2010. p.26). It is important for planners to consider the characteristics of each country. These include climatic conditions, human settlements, social structure, and economic and demographic characteristics. Planners have converted to new models that have made different and heavy impacts

on the urban environment, such as changes in architecture and landscapes. It has become a component of the development program to consider this variation (Toskovic, 2000, pp. 7-10).

In 2005, Bashir Azlitni, an urban planner, analyzed and evaluated urban planning standards in Libya. He found that urban planning in Libya has advantages and disadvantages. Azlitni stated the need for adapting the most appropriate plans for local environments (urban and rural) in the planning policies, such as considering the cultural values behind traditional construction and creating green areas around towns. Azlitni also stressed some problems that have arisen in urban planning implementation. First, the insufficiency of local professionals in both design and urban planning, second the limited knowledge about the society and local condition of the country among planners, third, the lack of a qualified administration in terms of implementation, and lastly, the gap between the planning and implementation processes, as well as the absence of public participation for development plans.

Another urban planner, Adel Sultan (2004), conducted a study on Benghazi and analyzed the problems for urban planning in Libya. He concluded that planning was not successful in tackling urban problems because it was separated by politics from the administrative process. He recommended that in order to play a role, planning should have more flexibility in terms of socioeconomic strategies as well as cultural and environmental aspects. Planning should address regional development in a democratic environment; this may include connection with the public to reach the national goals of urban and regional planning strategies. Sultan stressed the necessity of pursuing legislative and procedural reforms such as improving the mechanism of the urban planning system and the reform of laws and regulations of the planning authorities. In order to achieve these objectives, reforms should enhance capacity building, financial support, and technical abilities.

In this research, I focused on the administrative processes that policy makers rely on in order to implement the aims of planning. In addition, I examined the urban planning regulations that are related to the expansion of the city, especially the public acquisition process that includes land ownership and registration. This is one of the crucial control policies, based on the historical importance of the land environmentally and recreationally. Many African cities lack deliberate planning in the urbanization process, as well as adhered and enforced planning principles, particularly regarding land (Mundia, Aniya, 2007, p. 1846). The history of planning in Libya has had a wave of inconsistency during the 1980s and 1990s, which resulted in complex issues contemporarily such as random expansion and a huge gap between plans and the actual growth of urban areas (El-Fathli, 1980). Eventually, it has resulted in the influence of politics on planning policy, planning processes, and practices of the Urban Planning Authority (UPA) in Libya.

1.4 Remote Sensing

Remote sensing looks at both land-cover and land-use. The term "land cover" refers to the land's biophysical materials, while how the land is used falls under the term "land use" (Jensen, Cowen, 1999, p. 614). Studies of land use and land cover change are significant at both local and broad (or regional) scales. At the local scale, they provide basic knowledge of land cover and assist leaders and locals to understand resource limitations in the environment, while at the broad scale remote sensing provides portraits of climate and vegetation patterns in the environmental context (Campbell, 2008, p. 581). Urban areas are the most dynamic land cover types. Based on the dynamics of urban growth, there are many impacts on environment and natural resources at regional and national levels such as the growth of urban areas over forest and other agriculture lands, as well as water scarcity in the Jeffara plain where a big proportion of population resides.

In African cities, there have been a limited number of studies using remote sensing data. Mundia and Aniya (2007) studied the expansion of the city of Nairobi, Kenya, in which they utilized Landsat MMS, TM, and ETM+ imagery for 1976, 1988, and 2000, respectively. The purposes were to detect the change in urban areas, to identify the process of urbanization through the socio-economic data, and to map the dynamics of land use and land cover changes.

Aerial photography was used for ground control points to get a high accuracy assessment, as well as for image processing and manipulation. Post classification was performed to compare different seasonal data, which they acquired from different sensors. Pre-processing imagery, scheme classification design, image classification and accuracy assessment were performed in the process of analyzing urban dynamics. They concluded that the built-up areas increased by over 300%, with extensive loss of forest over the period of study. The direction of urban growth was influenced by population growth, economic development, and site location. The lack of general principles and deliberate planning in the laws and regulation is seen as the main cause of the poor urban management. This paper suggested that Nairobi needs comprehensive planning and sustainable development to face the tremendous growth and its associated environmental and social impact.

Elsewhere in Sub-Saharan Africa, Twumasi and colleagues (2004) applied remote sensing techniques to detect the urban growth in the city of Niamey, Niger. They used Landsat TM and Landsat ETM+ from 1988 and 2001 respectively acquired from USGS. Image processing included radiometric correction in order to remove speckles, scan lines, and haze. To preserve the detail from the original image, they used the technique of nearest neighbor to resample both images. To obtain more enhanced imagery, a linear stretch was performed and a subset was taken to emphasize the study area. Both supervised and unsupervised image classification was applied in order to

identify the changes in the land cover of the city. A notable increase of population ran parallel to a decline in agricultural land cover and other vegetation. This decline was caused by urban expansion and climatic variations. The paper recommends that planners should adopt several solutions urgently to control growth and to prevent exceeding the carrying capacity of the city.

Mansur and Rotherham (2010) applied satellite imagery to determine the land cover changes in the region of Al-Jabal Alkhdar in eastern Libya. They utilized Landsat TM 1984 and 1991 and ETM+ 1998 and 2005 images. The classes of the land cover map were divided into six groups of stable land cover area. They used two methods: an unsupervised classification based on the structure of the area of study, using an ISODATA algorithm to identify the Landsat data clusters using the minimum spectral distance of every pixel. In addition, they applied the supervised classification using a maximum likelihood algorithm. The method applied in this research was helpful in detecting land degradation. This technique assisted in mapping the land cover classes and illustrating the changes in each class. Major declines were found in forest and shrub areas while the farmland, bare soil, irrigated land, and urban areas increased in land area. The highest decrease was found in the vegetation land cover. The main factors behind these changes were human activities and environmental changes. In the last three decades, Libya has experienced remarkable change in land use generally and urban land-cover and use in particular.

Utilizing satellite imagery provides accurate land use/land cover classification mapping, which can assist in managing uncontrolled growth. In this research, I applied the land use/land cover classification method in mapping the urban change to provide up-to-date urban change maps. The classification illustration includes monitoring and measuring the urban growth and determining its directions to assist planners in making better decisions and implementing their plans. Due to data unavailability and accessibility to urban data, using remotely sensed imagery is

valuable in Libya. Because most of the government data is outdated, inaccurate and in many cases limited to official uses it has been made available neither to researchers nor to the public.

1.5 Methodology and Research Questions

This study combines different methodologies including archival data collection, literature review, remote sensing and geographic information system techniques, and interviews. Despite the fact that the study documented valuable potential for deploying remote sensing techniques and geographic information systems in a quantitative approach, it is actually a mixed (quantitative and qualitative) study. The key methods other than remote sensing techniques include archival methods and interviewing.

The methodology of the research ultimately aimed to answer the following questions:

1. What is (are) the main factor(s) contributing to urban growth of Tripoli? This question requires pointing out the role of each factor behind urbanization. It is answered within both historical and contemporary population and urbanization contexts. The significance of this topic is due to the concentration of population and urban centers on the Libyan coast, which has been under pressure in terms of infrastructure and services.
2. Is rapid urban growth related to urban planning policy, and what is the mechanism and decision making process in the urban planning authority?

This study determined the link between planning policies and current growth of Tripoli, and then determined and outlined the obstacles that have been facing the urban planning system.

1.6 Archival Research

I worked to obtain historical data on urban growth, which could show the phases of growth and connect those to the historical changes of the city during different periods. Archival data used here consists of national level data at the National Information Authority regarding the

population census for specified dates, which assisted in determining the population growth and distribution. In addition, the data obtained included planning and development data in Libya from the Ministry of Planning, which assisted in interpreting the role of economic development in urban growth. Furthermore, censuses were utilized to show the change in arable and agricultural lands because of the urban growth.

Furthermore, I utilized unpublished governmental reports, which helped to gain detailed information and knowledge regarding the area of interest in addition to access to the academic theses and dissertations focused around my research topics. One of the crucial sources of data in Tripoli is the UN-HABITAT (The Regional Center of North Africa and the Middle East of Human Settlement) which has provided a broader context regarding the Libyan development through collaborating with the authorities at the national level, which has several projects archive of Libya and in other African countries related to my research.

1.7 Techniques

This research utilized remote sensing techniques and geographic information systems to analyze urban growth of the city of Tripoli. The data collection included satellite imagery from different sensors for the purpose of monitoring and mapping the change over a period. The remote sensing data downloaded from the USGS website, included the available 1976, 1988, 2003, and 2014 Landsat images, which were processed to show the change in the greater Tripoli area in terms of population change and city growth and its directions over time. This process assisted in the distinguishing of the land cover types and comparing between different periods of growth.

Unfortunately, I was not able to obtain data from the Libya Center of Remote Sensing due to the bureaucracy and the situation of insecurity in the country. My request to obtain satellite

imagery from the SPOT center in Tripoli was refused, which would have provided high-resolution imagery for more advanced and accurate remote sensing applications.

1.8 Interviewing

This method was used due to its strength in filling gaps in information from other methods, such as observation and census data, or from other sources such as archival data that were not able to provide that information (Hay edit, 2005, p.80). In this research, five interviews were conducted with officials at the national level authorities and ministries. Semi-structured interviews were conducted with selected officials at the Ministry of Planning where decision makers approve national planning strategies. Those interviewed included the chair of the Planning Institute, and the former head of the Agriculture and Economic Planning Division in the Ministry of Planning, both of which provided significant information regarding the economy and planning policies.

Similarly, interviews were conducted with officials at the Urban Planning Authority (UPA), the highest unit concerned with urban planning in Libya, where overall supervision takes place, processes and practices are implemented, and decisions are made. The interviews conducted with the head of information and technology were helpful to understand the role of technology at the Authority and the obstacles that the Authority has been facing to enhance its technical role in the urban planning system. Additionally, I interviewed the Executive Director of the Third Generation Plan Project, who revealed significant information regarding the Urban Planning Authority, the Third Generation Plan Scheme, the technical support and difficulties, urban growth and management, and the role of politics in urban planning. He expressed his vision for urban planning and provided insights for better understanding the role of the authority and urban planning policies and mechanisms of urban planning. [1]

[1] There are three urban planning generation plans, 1968 during the kingdom era, 1980, and 2000; the latter has been supported by UN-Habitat office in Libya.

Furthermore, I conducted an interview with the head of the Agricultural Protection Authority, who stressed the role of his authority in monitoring construction on agricultural lands and the mechanisms for protecting those lands.

1.9 Content Overview

In chapter two, I define urbanization in the regional and national context and how, and, to what extent Libyan urbanization represents the patterns and processes of other northern African cities. The impacts of social, economic, and political factors on urban growth and management are examined. In this chapter, I focus on the population growth and the role of internal and external migration. Furthermore, the economic growth and economic development are defined, and I distinguish between the two terms and lay out the contribution of economic development to urban growth.

In the third chapter, I introduce the maps used to determine the growth of the city during different historical eras, which show the role of the forces that exercised control of the Libyan territories in each era. Remote sensing imagery utilized to analyze urban growth, and a geographic information system is deployed to illustrate population change and the direction of growth in and outside of the urban limits population growth, population density, and the concentration of population within urban areas were calculated from the attribute table in ArcMap into Excel file to generate urban change over time.

The fourth chapter investigates the urban planning system, including the role of the highest urban planning authority, the UPA, and the role of the social, economic, and political conditions on planning policy. I conducted interviews in order to understand the nature and obstacles facing the urban planning system. This included the impacts of constant political changes on planning, and improving the efficiency and effectiveness of planning and

transitioning it toward a more advanced system. I relied on the concepts of Friedmann (1986) and Forester (1993) and their theories on how power and politics have been a major factor in the urban planning context.

Chapter 2: Urbanization and Population Growth

Urbanization is an international phenomenon that began in the early nineteenth century; it has been driven by economic development, especially the influence of the Industrial Revolution in the West. In developing countries, urbanization has increased as populations have grown and moved from rural areas to cities as regional and national policies have favored urban areas. Pacione (2005, p.71) defines urbanization as the increase of the proportion of the total population that lives in urban areas. The term also refers to that proportion of the population that relocates to live in the urban sector (Dyson, 2010. p.126). These definitions mention two important factors of urbanization that apply to Tripoli: 1), the proportion that lives in the cities; 2) the proportion that migrates to live in cities.

Urbanization, as we understand it today, began to spread from Europe to the developing world because of colonization. The Industrial Revolution and economic development in developed regions of the world led to a large increase in the total urban population. At the regional perspective, in developing countries, urbanization has increased rapidly in the past four decades. The urban centers constructed by colonial regimes had primarily developed for commercial and security purposes and colonial urban centers reflected the lifestyle and priorities of the colonizers, rather than the indigenous population. The following discussion examines Simon's (1992) theory regarding the relationship between the colonizer and the colonized, in which Simon defined his determinants of colonial and post-colonial urban forms. These forms include the colonization motives, large urban centers' nature, military centers and security, anticolonial struggle and liberation, economic and governmental policies, and urban legislation and decentralization.

Simon argues that urban forms have been affected by colonization at different levels, and that colonization radically transformed cities in developing regions, producing their contemporary

forms (McCarthy, Knox, 2005, p.186). We can see this phenomenon in Africa, where urbanization has developed according to a pattern in which colonizers established urban centers in accessible areas, which they used to export new materials and resources. The urban centers usually functioned as administrative, economic, cultural, and recreational centers. Importantly, these cities became national capitals in Africa and Northern African, rather than previous indigenous administrative centers.

The colonial authorities often designed these urban centers according to the logic of cities in Europe, but these cities often became a mix of local traditional and European modern urban design and architecture. However, city centers were often reserved for colonial administrative activities, while the locals resided elsewhere in the city and urban peripheries, urban centers were developed later and tended to merge local and foreign styles. The city of Fez, in Morocco, is one of the best examples of these "dual systems" that combined traditional and modern elements. In Edith Wharton's description of Fez, she remarked on the quaint beauty of the old walled medina and exclaimed, "Set in this legendary frame was the unexpected spectacle of an intensely modern community, leading a life of European activity and usefulness" (Wright 1991, p. 99-100). Wharton thus clearly describes the traditional structure of Fez with its inherited social unity. In contrast, the *villes nouvelles* characteristic of the French economic center mainly housed the colonial regime and the military camps located adjacent to the always commercial district.

Broadly speaking, two different regions can be distinguished geographically and historically in terms of urbanization; developed and developing regions. In another perspective, drawing on Immanuel Wallerstein's (1974) world systems model, which emphasizes the hierarchical nature of the world economy, we can divide the world into three broad zones, as follows. The core region consists of developed countries like the United States, the United Kingdom, and Japan. Meanwhile,

the second and third zones consist of the semi-peripheral and peripheral regions (the less-developed countries of Africa, Asia, and Latin America). Wallerstein's model associates the core with advanced technologies, high wages, and production diversity. Meanwhile, the periphery is characterized by low wages, and less diverse economic output, much of which has focused on producing raw materials and resources. Moreover, the technologies tend to be rudimentary compared to the core regions. Finally, there are semi-peripheral regions that combine aspects of both the core and periphery, and which represent parts of the world that are improving their position in the system of the world economy.

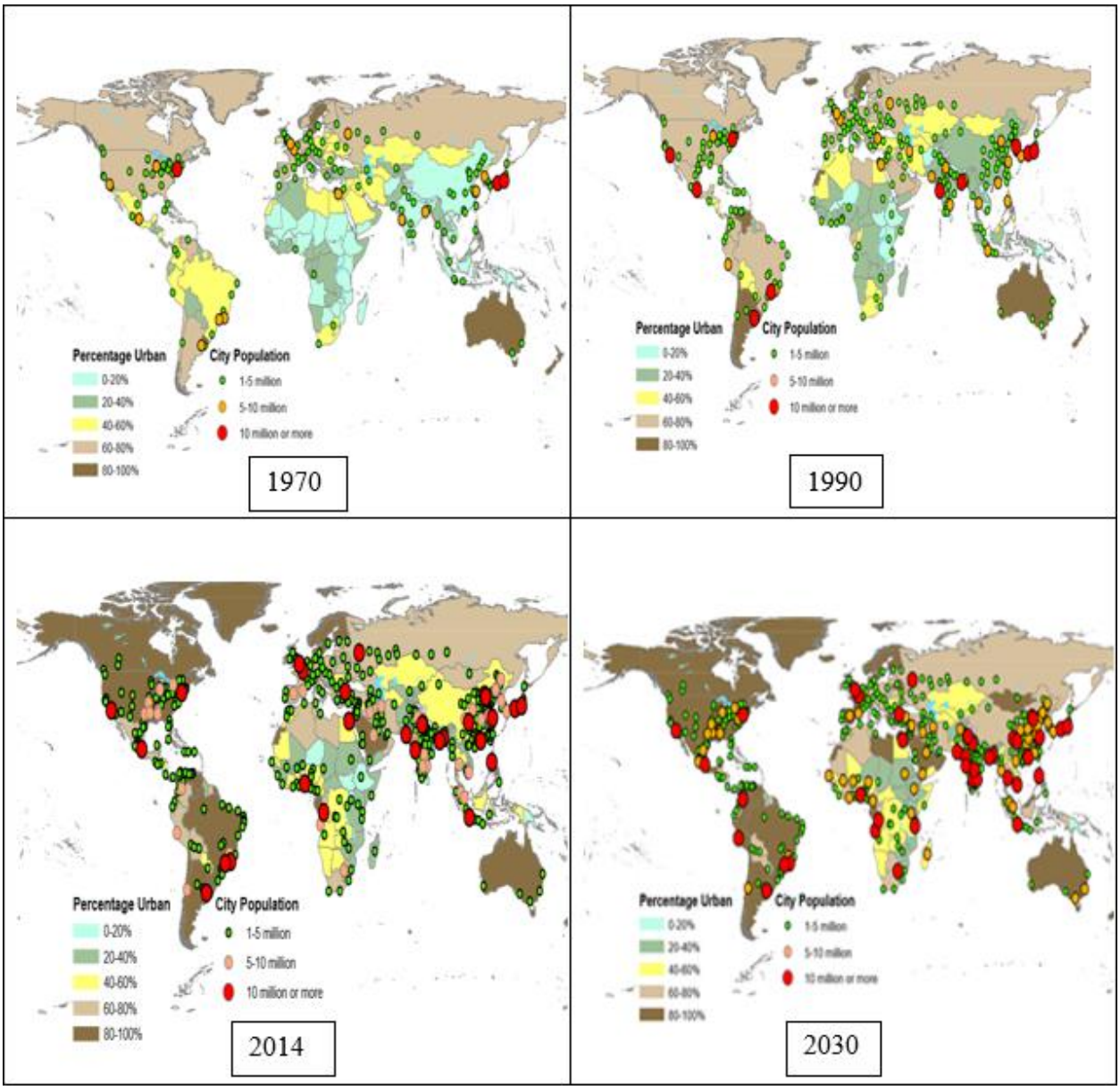
The division between core and periphery is visible in the significant differences in the history of urbanization in these zones. In the more developed regions of the world, large-scale urbanization occurred because of economic development during the Industrial Revolution. This dynamic led to a massive transformation of urban morphology. However, the primary factor driving urbanization in the developing world has been population growth; this is especially the case for Africa (Parnell and Pieterse, 2014).

In the middle of the nineteenth century, roughly 60% of the world's urban population was concentrated in the core. However, since that time, urban populations worldwide have tripled, and most of this growth has occurred in the global periphery. The number of the largest metropolitan areas located in the global core declined from 30 in 1980, to only 19 in 1990; By 2015 this number is projected to drop even more sharply, to only 5 major metropolitan areas. This trend reflects the dramatic growth of cities in Africa and Asia, where the highest rates of population growth, as well as the countries with the largest populations are located (McCarthy, Knox, 2005, pp.172-174). Overall, Africa's urban population has grown faster than in Asia, leading to a higher overall urbanization. Africa is now described as a "region of fast urban growth" (Bilsborrow, 1998; see

also Parnell and Pieterse 2014; Myers 2011). However, Bilsborrow argues that, despite the rapidity of urbanization trends in Africa, rural populations are growing very quickly as well. This is a result of the concentration of much of Africa's urban population in small- and middle-sized urban centers, which have historically been the most common types of urban centers in Africa. The size-class scale (figure 2.1) can assist us in assessing the growth of urban area and urban agglomeration in Africa.

In the 1970s, Africa had only seven cities (mostly capitals) with 1 million habitants, and the only city with 5-10 million people was Cairo, Egypt. Only five countries could claim that 40-60% of their populations lived in urban centers, while in half of the countries of Africa only 20-40% lived in cities; the rest recorded 20% of the population living in cities, or less. Urban agglomeration patterns in Africa changed rapidly in the 1990s, during which time Africa experienced substantial urban population growth. According to World Urbanization Prospects, urban areas are growing rapidly and both urban agglomeration and the number of cities that exceed a population of one million increased rapidly in Africa from 1970 to 2030 (Figure 2.1).

Indeed, the number of cities with 1-5 million habitants increased to 24 (although Cairo remained the only capital with 5-10 million habitants for another two decades). Egypt, Tunisia, Algeria, Morocco, South Africa, and Botswana all had urban percentages of 60% or more while Libya and Gabon had urban percentage between 60-80%.



Source: world urbanization prospects 2014

Figure 2.1 African Urban Percentage and Agglomerations

Considerable economic growth in different regions of Africa spurred significant population growth in some urban areas in the early 21st century, and the number of cities with 1-5 million population almost doubled, from 24 in the 1990s to 46 in 2014. Similarly, the number of cities with a population of 5-10 million habitants doubled, and Cairo became only one of three cities with a population over 10 million habitants in Africa (along with Lagos and Kinshasa). Recent

patterns of urbanization in Africa also are geographically disparate: the percentage of urban population increased considerably in western and southern Africa, while most of east Africa remained at relatively low levels of urbanization. At the regional level, the proportion of the population living in urban areas is highest in southern Africa (60.7%), followed by northern Africa (57.3%), and western Africa (52.3%). This corresponds to a significant degree to levels of economic development, with southern and northern Africa being the most economically developed regions.

It is noteworthy that, in addition to the rapid growth of the urban population, there also has been a significant growth in rural areas. Africa has a unique population phenomenon in that it is the only continent exhibiting this kind of characteristic. It combines the growth of cities, resulting from the process of urban evolution, with the steady growth of the rural areas. This stands in marked contrast to other continents, which are facing rapid urban growth and the decline of rural populations. Unlike the growth of Africa's urban population that is considered high compared to all continents and expected to be higher than all continents except Asia, however, population increase in rural areas is expected to grow at a relatively moderate rate, which is largely attributable to the increase in fertility rates (Parnell and Pieterse, 2014).

Ultimately, the last two decades have witnessed a significant shift in patterns of industrialization and urbanization. In this so-called "Global Shift" (Dicken 2011), China, East and Southeast Asia, as well as certain other regions and countries, are becoming central sites of global manufacturing. Unsurprisingly, urban growth has expanded dramatically in these regions. The BRICS countries (Brazil, Russia, India, China, and South Africa) are often signaled out for their expanding industrial significance, while most of Africa, both sub-Saharan and North Africa, is often seen as lagging behind in terms of industrial growth; it is simultaneously identified as an

exceptional case for patterns of urbanization. The exceptionalism label stems from the fact that some countries have had high rates of urban growth without economic growth (e.g. Somalia, Mauritania or Burkina Faso), and other countries have seen their high rates of urbanization slow in a period of economic expansion (Uganda or Tanzania). There are some indications that the case for "African exceptionalism" is being undermined with the new "Scramble for Africa" (Carmody, 2011) for example, where high rates of foreign investment are triggering rapid economic growth and rapid urbanization (Zambia, Angola, or Ghana) - but there are as many, or more, indications that these patterns and contradictions may persist. Part of my purpose in the dissertation is to assess how the Libyan case compares with general claims about urbanization in Africa as a whole.

2.1 Factors driving rapid urbanization

In Africa, despite the contradictions noted above, urbanization has increased rapidly in general, and it is driven by changes in the structure of the relationship between rural and urban areas. These changes are primarily economic in nature: as economic development proceeds, the prospect of finding jobs in urban areas drives migration to cities and out of rural agricultural areas. This process is strengthened by the concentration in cities of industry, transportation, education, communication, and other types of infrastructure. In addition, the aforementioned historical legacy of colonialism and the dominance of urban centers ensured that cities became the primary political and commercial centers in the post-colonial era.

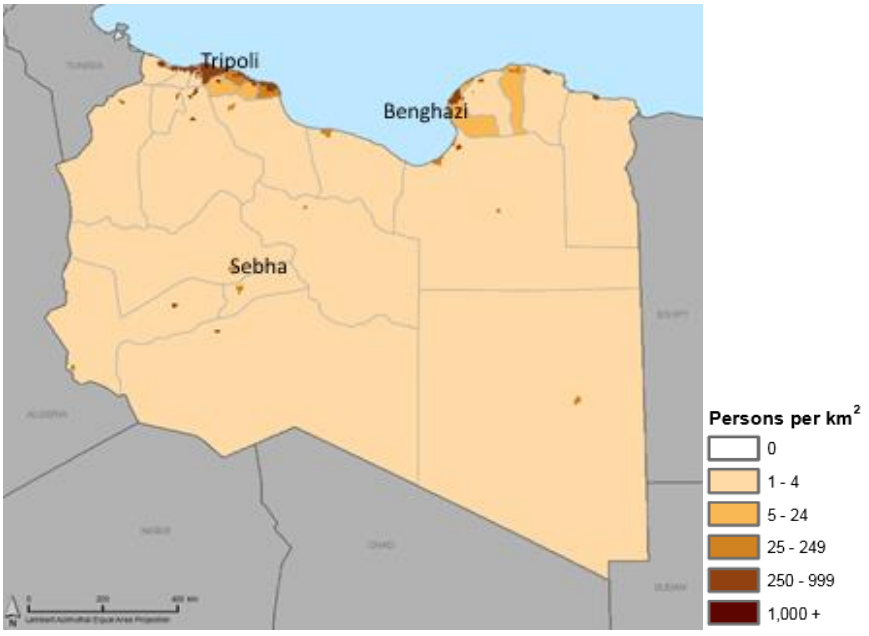
It is a hallmark of urban patterns in Africa that the primate city, which is the largest urban center that has as twice population as the second city in the county (Pacione, 2005), has dominated contemporary urbanization processes by encouraging urban centralization and affecting patterns of urban development. In addition to being the center of government, the

growth of cities has also attracted the private sector, making urban areas attractive destinations for internal migrants (Hope, 1998, p.348). The commercial importance of capital cities has also been a significant factor: as mentioned previously, capital cities often were established by European colonial powers to facilitate trade, economic exploitation, and resource extraction. However, many cities were built even earlier, astride significant trade routes. Myers (2011, p. 51) shows that in 46 of the 53 countries of mainland Africa, the largest city is the one that was the colonial capital, the main port, or both, and more than half of the 50 largest cities on the continent follow this pattern as well.

How does Libya compare with these patterns? Tripoli has been a major urban center for millennia, unlike many of the other African major cities. The city's history of urbanization dates to the time of the ancient Phoenicians, who built a number of densely populated cities along the Mediterranean coast. Recognizing Tripoli's commercial potential, the Romans subsequently invaded the region and supplanted the Phoenicians. The Roman era witnessed the expansion of most of the coastal cities on the Mediterranean Sea.

In addition, Tripoli possessed great agricultural significance, since the region around Tripoli used to provide Rome with agricultural products during the much more recent Italian occupation (1911 – 1950). During that period of Libyan history, Italians developed urban systems in the Tripoli and Benghazi regions in order to settle as many Italians as possible, often relocating Libyans to suburbs reserved for the labor force. By the late 1950s, most of the agricultural lands and large farms were owned by Italians, which were only transferred to Libyans in the early 1970s. Developments in agriculture and Tripoli's location along trade routes from north to south made it the primate city, which serves as the dominant economic, administrative, and political center for the country.

The presence of foreigners, as well as Libyans, was a strong factor driving population growth and urbanization. In a country like Libya, where the desert dominates, arable land is limited, and climatic variability greatly affects people's lives; therefore, urban planning must be a high priority. Due to the impact of desertification, Libya has increasingly limited areas for agriculture; arable land consists of only 1.03% of the total area of the country (Libyan Information Authority, 2009). As farming becomes more difficult, more people have sought refuge in the cities. Thus, urban densities are very high in the major coastal urban centers and are quite low (or sometimes non-existent) in the rest of the country. As shown in Figure 2.2, Tripoli, the northwestern region of Libya, contains the highest population density in the country, with over 1000 people per square kilometer. This area is called Jeffara Plain, and the majority of Libya's population - about 60% - resides there. The Benghazi region has the second highest population density, between 250-999 people per kilometer, followed by the Sabha region, which is significantly lower, with only 4-24 people per kilometer.

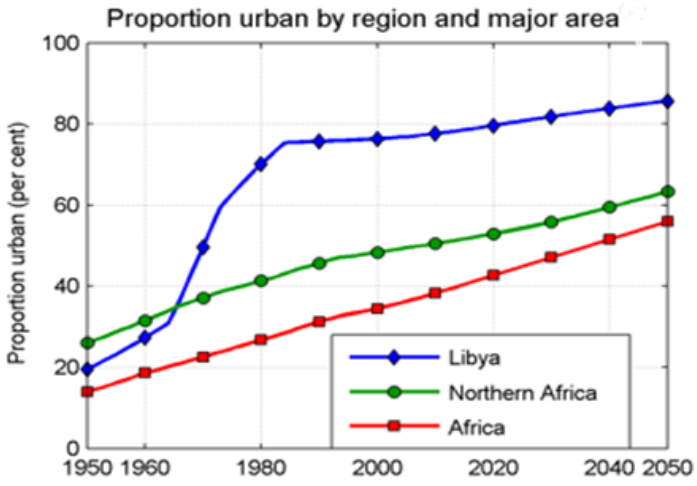


Source: Ciesin, Columbia University (2000)

Figure 2.2 Population density 2000

Patterns of population distribution have thus created a severely imbalanced concentration of population in the two coastal regions around Tripoli and Benghazi, the two major cities of the country. Libya's national spatial planning is attempting to reduce the rapid increase of population concentration on the coast in order to relieve the pressure on major cities, where resources are strained because of increasing pressures on services. The ultimate goal is to develop the internal regions of the country in order to restore the national population balance by focusing on developing the natural resources that long have been neglected.

As mentioned previously, Africa has experienced rapid urbanization. However, there are significant regional disparities across the continent. As shown in figure 2.3, Libyan urbanization resides on the top of the African continent's chart, and, regionally, North Africa is the highest urbanized region. The notable increase in early 1970s was due to the increase in oil production and allocated revenues in urban development.



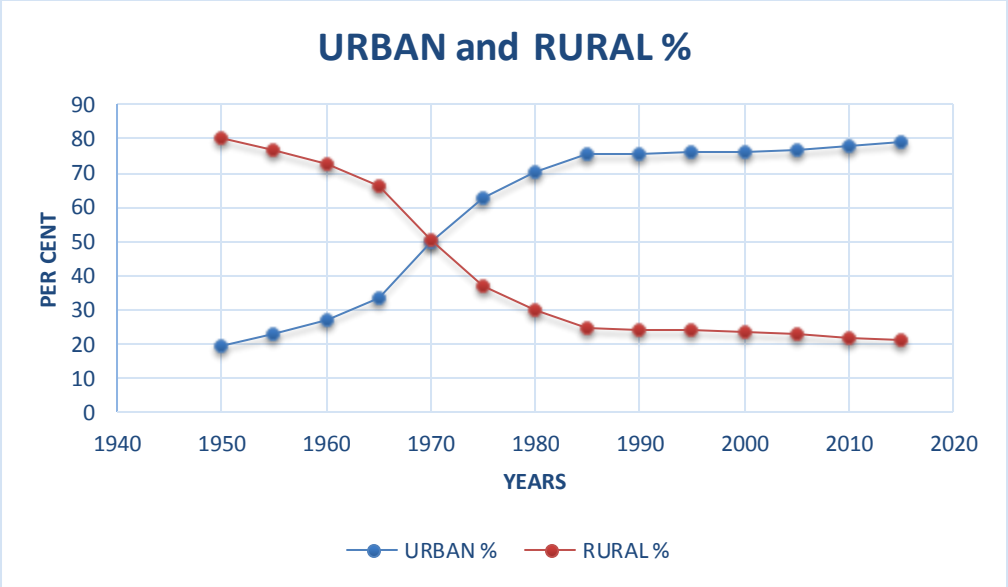
Source: World Urbanization Prospect

Figure 2.3. Urban population Libya, North Africa, and Africa since 1950

As emphasized in the agglomeration and urban percentage reports, North African countries have higher percentages of urbanization compared to the rest of the continent. It is significant to

mention the role of economic growth in some regions such as northern and southern Africa, which have recently been joined by some parts of West Africa like Nigeria, which now has numerous urbanized areas and an increasing number of cities with a population over one million habitants.

Consistent with these patterns, Libya has experienced an increase in its urban population for decades, which has resulted in a rapid growth of cities. As we have seen, large numbers of people have migrated to the large and the most urbanized cities: Tripoli, the capital, and Benghazi, the second city. Urbanization rates in Libya have risen steadily, from 49 percent in 1970, to more than 62 percent in 1975, and to 78 percent in 2010; it is projected to increase to 80 percent in 2015 (World Urbanization prospects, 2007).



Source: World Urbanization Prospect

Figure 2.4 Urban and Rural Percentage 1950-2015

Interestingly, there was a significant change in 1970 (Figure 2.4), when urban and rural rates intersected. Hope (1998, p.354) has argued that the rapid pace of urbanization is characteristic of African cities, and has resulted in growing demand for urban services, which have largely been absent in rural areas.

Hope (1998, p.345) has also characterized this unbalanced situation as an "urban bias." This term refers to national policies that favor urban areas over rural areas (Becker, Hamer and Morrison 1994). Urban bias continues to dominate development in Africa, where most of countries prioritize urban over rural development. Because of such policies, rural areas have in many cases collapsed due to a lack of basic services. This bias has thus pushed rural residents to leave their farms and towns for the cities, in order to have access to services and find work. Due to the continuing concentration of resources in large cities, the gap with rural communities continues to widen.

Although cities have benefitted from the increase in the resources allocated to them, there are consequences to rapid urbanization: high demand on services, crime, and environmental issues, such as desertification and pollution. Rural areas, moreover, are exposed to many problems that outweigh their counterpart in cities such as shortages in services and young labor migration to large cities. Because the urban bias is not likely to end in the near term, a comprehensive regional and national policy that mitigates the differences between rural and urban areas is necessary.

In Libya, the increase in the urbanization rate is due to economic development, decreased death rates, and increased fertility rates. It is crucial to mention that the highest urbanization rates occurred in Tripoli and Benghazi. The urban population concentration trend has been apparent since late 1970s; in 2006, both, Tripoli and Benghazi, had urbanization rates that reached 95.7 percent and 84.9 percent, respectively (Waniss, Karlberg, 2007, p.89), while other small cities did not exceed 58 percent. The rapid growth of urban areas is due to major infrastructure projects and enhanced access to health care, which has contributed to high fertility rates, as well as to internal migration from rural to urban areas. Additionally, there is a significant contribution from external migration. Many illegal migrants entered the country under the former regime, which opened the

borders to neighbors from north and sub-Saharan Africa. Unfortunately, there is no official and accurate statistics of the exact number of illegal migrants.

In developing countries, natural population growth and internal migration are often seen as the main factors of today's accelerated urban rates (Rogers, 1984, p.262). This is a result of the so-called "demographic transition." Such transitions or revolutions are the stages in which a society moves from being characterized by high birth and death rates towards low birth and death rates. This revolution leads initially to a massive increase in the population, which tends to produce substantial internal migration. Consequently, the urban-rural balance is disrupted, and cities begin to grow while rural areas decline, which is the case of contemporary urban Libya.

Population growth is thus one of the main factors of urbanization. There is a gap between rural and urban areas in that fertility rates in rural areas are typically higher than urban areas. This is a result of the economic and social changes wrought by urban life, which produces significant economic, social, cultural, and political transformations. People often seek jobs in the cities in order to earn more money and utilize the kinds of services that are available in cities. Rural people often abandon their old lifestyles, which are mostly connected to agriculture, for other kinds of work that are associated with cities, such as services, industry, and transportation. This kind of life preserves the value of the traditional social life where people prefer having more children unlike urban life that affects residents with more pressure to live and benefit from services at high prices. Moreover, the discovery of oil (high revenues and surpluses and small number of population) has influenced the Libyan economy in general and Tripoli's growth in particular, and led to great improvements in economic and social conditions. The influx of revenue has helped to provide better health care, which in turn has worked to increase birth rates and lower mortality rates, as well as provide an incentive for rural-to-urban migration. It is very interesting to compare

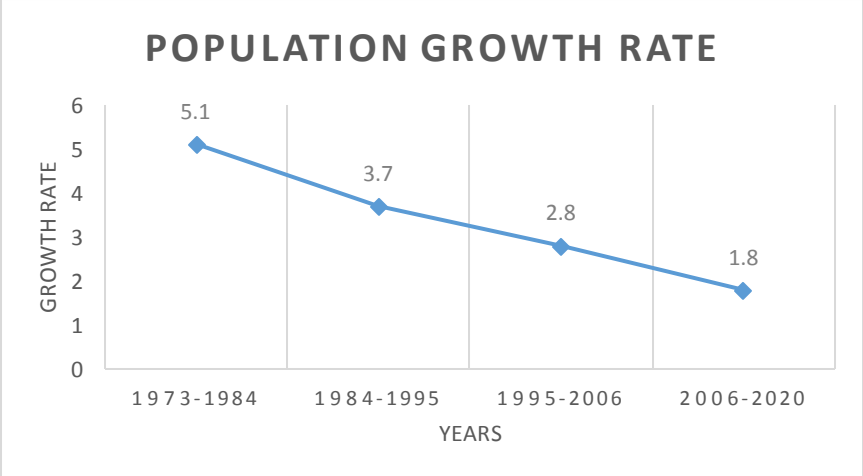
urbanization in Libya and the improvement in the quality of life there during the oil boom, with that of Africa's other major oil-producing countries – Gabon, Angola and Nigeria. While Gabon and Libya have many patterns in common, neither Angola nor Nigeria have seen anything like the same, broad, general improvements in economic and social conditions during their oil booms (Murray and Myers, 2006). A thin stratum of elites have benefited, while the majority remain in poverty and extreme inequality has risen (UN Habitat 2014).

Elbendak (2008) argues that Tripoli is the place where the greatest social change has occurred in Libyan society, and its position as the primate city has led to significant interactions between the urban population, rural migrants, and foreigners. New patterns of social interaction are one result of this process. For example, in urban environments women often have many more opportunities to study, work, and otherwise participate in economic growth and social change than would otherwise be the case in rural contexts. These changes also tend to affect rates of fertility. An increasing number of women studying and working tends to increase the age of marriage, which in turn results in lower fertility rates. At the same time, however, the mortality rate has fallen dramatically due to economic development and the enhancement in health services. At this stage, fertility rates in Libya can be characterized as moderate, while the mortality rate has declined to the lowest level in history.

The population growth rate depicted in Figure 2.4 gives a picture of population growth since the 1970s. It shows that the highest growth rate was 5.1%, between 1973 and 1984. Between 1984 and 1995, the rate decreased to 3.7%. However, during those years Libya's population also grew quickly, thanks to an influx of a large number of external migrants. The growth rate decreased to 2.8% between 1995 and 2006, due to the changes in the government's economic development policy as well as broader social changes in Libya.

In spite of the growth of Libya's total population, the natural growth rate has actually declined since 1973. This decrease is attributable to the low rate of female illiteracy: the data shows that illiteracy rate decreased from 85% in 1973 to only 27% in 1995. Women have increasing access to education, and the number of women between the ages of 6 and 24 enrolled in schools and colleges rose from 51% to 63%, in 1984, and to 74% in 1995. Moreover, the female proportion in the labor market increased from 5.6% in 1973 to 10.7% in 1984. This proportion has further increased to 15.5% in 1995 (Urban Planning Authority, UN Habitat, 2006. P.50), and since that time there has been a sharp growth, as more women are earning their masters and doctorate degrees, which opens up access to more influential positions. All of these trends have combined to slow population growth rates.

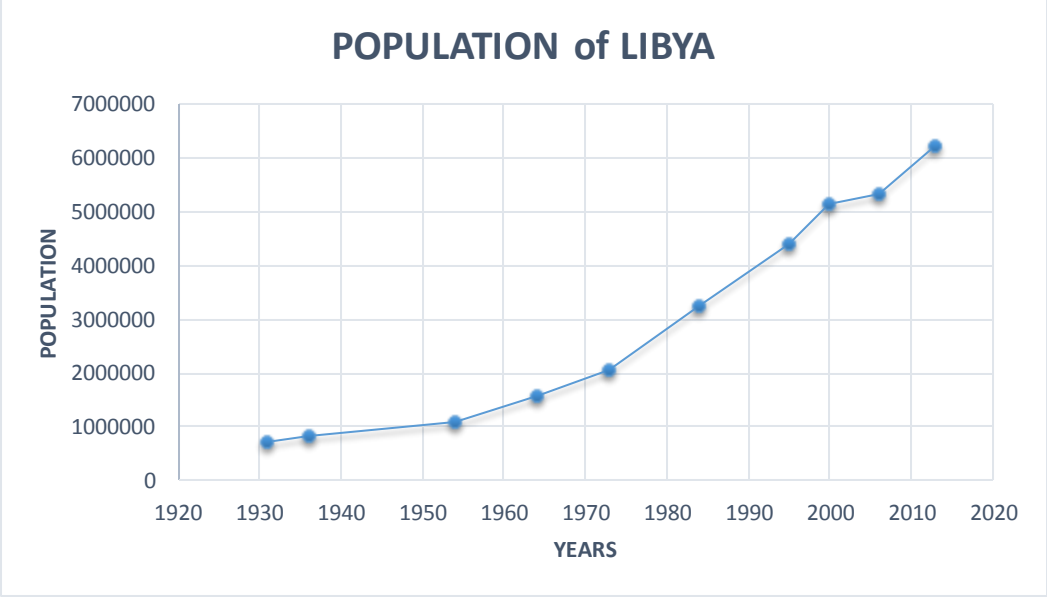
In terms of policy, the government also promulgated a law that prevented residents of other cities from registering in the city of Tripoli. This policy was meant to reduce internal migration toward the capital. Since 2006, when the last census was conducted, Libya's growth rate has declined sharply, to only 1.8% (Figure 2.5) and it is expected to decline even further because of internal conflict, instability and economic hardship that resulted from the revolution of 2011.



Source: Population Census, 1973, 1984, 1995, 2006

Figure 2.5 Population growth rate 1973-2020,

As we see in Figure 2.6, the population of Libya has grown dramatically since the 1930s. The weak population growth at the beginning of the 20th century was largely due to weak economic growth and the dispersion of the Libyan population, both inside and outside the country. The population began to rise slightly after Libya gained its independence from 1,091,000 in 1954 to 1,559,000 in 1964. This was a result of a national policy implemented by the king, who encouraged migrant Libyans, many of whom fled the country during the Italian occupation and the western mandate period between 1942 and the independence in 1951 to return to the country. Most of the migrants, who were primarily located in Tunisia, Algeria, Egypt, Niger, and Chad, ultimately resettled in Libya. Moreover, the population growth since the 1960s has been attributed to the use of oil revenues on social projects that improved living conditions. This was one of the priorities of a remarkable national development plan of housing projects, known as "The King's Housing Complexes," in regional cities and towns.



Source: Population censuses 1973, 1984, 1995, 2006

Figure 2.6 The population growth of Libya

The second period of major population growth in Libya dated from between 1964 and 1973. During this period, the country's population grew rapidly, from 1,559,000 to 2,052,372. Again, Libya's oil revenues often were allocated for new spatial development projects in many towns and cities across different regions, as well continuing projects implemented in the earlier period. During the 1973 and 1984, there was a rapid increase in population from 2,052,372 to 3,231,056 due to the economic development because of the increase of oil production. This increase reflected in high population growth rate and a massive urban development, which continued until early 1990s.

The third notable period of growth, which fell roughly between 1995-2000, (figure 2.6), also witnessed significant population growth, increasing from 4,389,739 to 5,125,519. This increase was due to migration and natural population growth. Unlike previous periods, however, this growth was associated with what might be called an "urban spatial duality," since it was marked by significant rural-urban and interregional migration, as well as an increase in the regional and national development plans (Lawless, Kezeiri, 1992 p.83). This period also witnessed the considerable impact of political policies in the 1990s that lifted visa requirements for neighboring Arab countries. Another law that lifted visa requirements for African citizens followed these policies. Both laws had the effect of allowing huge waves of external migrants, both legal and illegal, into the country. Unfortunately, there is no accurate estimate on the number of illegal immigrants, but officials have admitted that likely over three million people entered Libya in this fashion. (As the world has seen on the news in recent months, though, with the turmoil in Libya, many of those migrants who entered Libya now are attempting to leave it, often for Europe via human traffickers overloading small boats bound for the Italian island of Lampedusa).

Population growth began to slow between 2000 and 2006, which is the year of the last census. During this period, the population grew only slightly, from 5,125,519 to 5,324,000. The slow growth is due to the aforementioned social changes, particularly in the realm of gender equity, which helped to curb birth rates – as has long been predicted by many demographers of Africa, beginning with John Caldwell (1968). Social mores also began to shift at this time, and there was a marked trend towards having smaller families in a manner Caldwell (1968) would have expected, although this trend was due as much to economic hardship and a serious housing shortage as it was to changes in gender norms.

Since the last census in 2006, some economic development was achieved due to the national economic plan and increasing the national infrastructure projects, which created more economic chances that led to more housing construction in urban fringes where most of the growth has occurred. It has to be noted that since the revolution in 2011, Libya has suffered a serious death toll due to the war and its consequences of population displacement from several urban and rural areas. This has affected population growth (affecting the population projection of the country of figure 2.6) and the regional and national plans in the absence of central and powerful government and the laws and regulation enforcement, in ways that are hard to measure or account for in scholarly terms.

2.2 Internal Migration

Migration from rural to urban areas can be considered, along with natural population growth, to be the main cause of rapid urbanization in Libya. Population movements at the regional and national scales reflect the economic conditions in both source and destination areas. The understandable search for a better life and a bright future for one's family has led huge numbers

of people to migrate toward large cities, and Tripoli in particular (since, as mentioned previously, the capital has historically been the most attractive urban center in the country).

The earliest internal movements actually occurred during the later Ottoman period, around 1711, at a time when the Ottoman Empire controlled both Tripoli and Benghazi. Internal migration continued to increase until the beginning of the Italian occupation in 1911, but slowed thereafter. Perhaps unsurprisingly, major population displacements occurred during the Second World War, since Libya was a major battleground between the German, Italian and British armies. However, the largest wave of rural-to-urban migration occurred in the late 1960s and early 1970s, due to the oil production boom and concomitant increase in revenues. It was during this time that most of the Libyan migrants that had moved to neighboring countries during the Italian occupation returned. However, instead of returning to their rural districts, most made their homes in Libya's largest cities, causing rapid urbanization and radical transformation in the country's social and cultural life (Pereira, 2007. p.81). In addition, it should be noted that the majority of internal migrants are, perhaps unsurprisingly, youth from rural areas, who are searching for jobs and better lives.

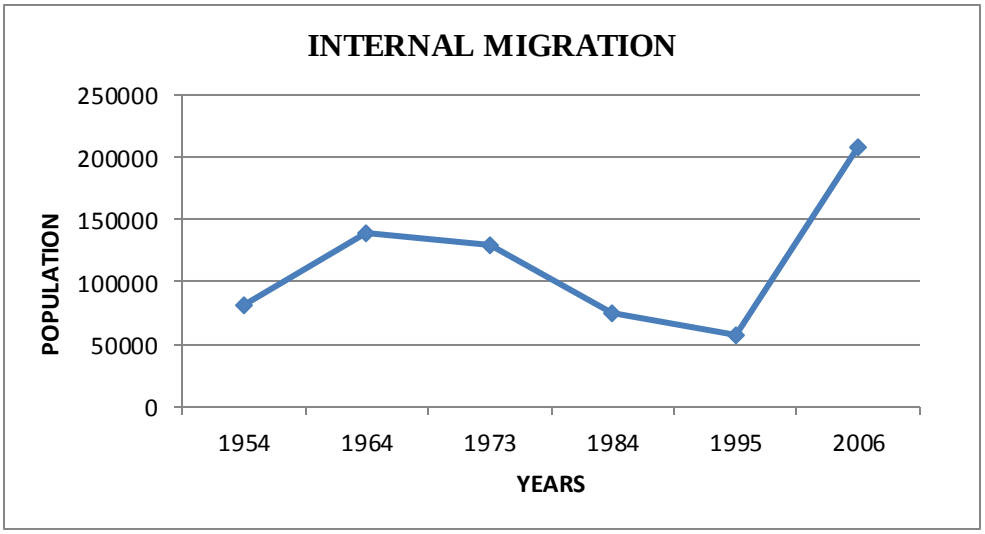
Table 2.1 Internal migration to Tripoli

Year	Internal Migration Number	% of total population
1954	80,650	18
1964	139,009	17.3
1973	129,923	21.1
1984	75,376	7.6
1995	56,854	5.4
2006	207,844	13.7

Source: Libyan Census Reports 1954, 1964, 1973, 1984, and 2006
Osama et el. 2011

For example, Harrison (1967, p.402) conducted a study on migrants and growth in Tripoli, finding that the city had experienced a substantial internal migration wave during the 1950s and 1960s due to the development of industry. In fact, at that time about 79% of Libya's industrial labor force was concentrated in Tripoli. Harrison also found that migrants moved to Tripoli to find jobs and to educate their children. These results are not particularly surprising, and indeed, during the 1980s and 1990s, both Tripoli and Benghazi grew quite rapidly, their populations bolstered by large number of rural-to-urban migrants who sought employment and services in urban areas.

Internal migration data from the 1950s through 2006 shows that over 45.4% of Libya's population, 689,656 people had moved to cities. The motivation behind these trends is familiar: people tend to move to more developed areas of the country where there is greater access to goods and services. These areas, moreover, are clustered along the coast, which has historically benefitted from significant larger funding allocations for urban development. Internal migration patterns have also reflected Libya's political system and planning policy, which have favored the accumulation of official institutions and services near the capital city.



Source: Population censuses
Osama at, el. 2011

Figure 2.7 Internal migration 1954-2006

Tripoli has been the center of governmental authority and administration since at least the 1970s. The aforementioned centralization policy thus caused even more rural-urban migration, since Tripoli became an even more attractive destination for migrants seeking opportunities in both the state and private sectors. It is worth noting that Libya depends on oil revenues and, consequently, most jobs are concentrated in the service sector, which makes up roughly 59% of all jobs in the Libyan economy. In comparison, only 17% of the labor force is involved in agriculture (Census 2006). The result is a vicious circle: the concentration of service jobs in the cities means that more people leave rural areas because services there are limited. Furthermore, rural areas have suffered from land degradation and desertification. These kinds of challenges have seriously affected the dominant areas of employment in rural zones, such as agriculture, animal breeding, and open markets where local farmers are selling their products. Policies that have served to concentrate resources in coastal cities have thus deeply affected rural areas and small towns, gradually pulling most of the manpower away to urban areas, exacerbating the economic development bias at both the regional and national scales.

Moreover, higher education institutions, such as universities, higher institutions of professional training, and technical centers, tend to be concentrated in Tripoli. The first Libyan university was established in Benghazi in 1966, and was followed by its Tripoli branch in 1973. At that time, those were only the universities in Libya. Gradually, other regional universities were established in the 1980s and 1990s (Libyan Information Authority, 2011). However, rural villages and small towns only offer small or single-school colleges, which offer a limited selection of majors that do not satisfy the requirements of the majority of residents. Furthermore, most of the technical education institutions are also located in urban areas. Earning higher education degrees

in urban universities, where curriculum choices are more generous and relevant, thus creates more opportunities for people from rural areas.

It is important to mention that Tripoli's higher education institutions offer all standard college degrees, including Bachelor's, Master's, and some Doctoral degrees. However, people who complete their higher education usually stay in the cities and seek jobs. In this way, they establish a one-way migration stream of highly talented and qualified individuals towards urban areas – a sort of internal "brain drain." Finally, it should be noted that, in addition to the attractiveness of the cities, most migrants historically have been men. This fact is largely a function of cultural mores, but it means that men in Libya tend to be much more mobile and women, despite their advance in recent years in terms of gender equity, often will follow their husbands, brothers, and their families if they migrate from rural to urban areas, rather than leading the migration stream.

Importantly, internal migration rates have been inconsistent across different periods, but they have increased over the last few decades. Tripoli had two periods when it was a major destination for internal migration. The first of these occurred between the 1950s and the middle of the 1970s, when the city became the capital of independent Libya and the center of the country's economic development. The second period of growth was during the 2000s, when the quality of life rose, especially within urban areas (Osama et al. 2011).

One of the reasons for this growth in urban living standards was that the government began to reverse policies that had discouraged foreign investments in infrastructure. This change opened up the doors for large foreign investments and set the stage for a major improvement in quality of life in Tripoli. New transportation networks eased movement, both within urban areas and to the surrounding territories, offering opportunities for urban residents to significantly improve their

lives. Most industrial areas in Libya are located in large cities. They consist of minor and medium industries, as well as heavy industries such as factories for building trucks, tractors, and cars. Approximately 77 percent of factories are located in Tripoli and Benghazi, while 88 percent of the labor force works and lives in urban areas. Significantly, Tripoli boasts 55 percent of the nation's factories, and 75 percent of the industrial labor force lives in Tripoli, while the rest of cities account for the remaining 25 percent (European Union, National Report of Libya, 2002, p.17). The new transportation networks have connected these industries with labor sources in a way not previously possible. Moreover, in 2005, the former government of Libya also established projects focused on building new infrastructure. Those projects, unsurprisingly, were mostly concentrated in urban areas, and neglected rural areas, which continue, in many cases, to lack very basic services.

Coastal areas in the northern part of Libya are rich in historical sites dating from a variety of different civilizations and eras. Not surprisingly, tourism became one of the major sources of income for people living in urban areas along the coast. Tourism creates a variety of jobs, including tour guides, drivers, and security guards. These positions were available for people from both urban and rural areas, depending on their level of education and knowledge. The lucrative nature of these jobs attracted large numbers of job seekers, who moved to live and work in cities. Only a few notable historical sites are located in the south of the country, and they tend to be less attractive, both for tourists and for people searching for employment. This is another reason that people prefer coastal areas, since the coastal tourism industry promises far greater rewards. Moreover, following the patterns we have seen previously, urban areas have also benefitted from decision-making by authorities and governmental institutions, which have tended to promote tourism in the north of the country at the expense of the south. Thus, infrastructure projects related to tourism tend to be concentrated in larger coastal cities, rather than rural areas further south.

2.3 Economic Development

Urbanization as a process has been discussed in many economic, urban, and planning literatures. The connection between urban and rural areas is very important for understanding the regional and national planning system. The role of urban areas in Libya is quite significant, due to the relationship between the cities and their surrounding regions. This relationship helps to explain how urban areas can accelerate the development of the regional economy, national planning, and toward stronger connection with rural areas.

The economic development process is a very important theme in development studies and development geography, and it is very significant toward developing a decision-making professionalism among planners who develop urban planning policies and national planners who develop the economic planning schemes (Beall and Fox, 2009, p.67). In order to understand the role of the economy and its relationship with urban growth and urbanization, it is important to distinguish between two terms in the urbanization context: economic growth and economic development.

Economic growth refers to the expansion of economic output, whereas economic development is associated with and accompanied by change. The change goes beyond mere growth, and refers to the point at which an economy shifts from reliance on agriculture to high value sectors, such as business services, industry, and manufacturing. This advanced level of transformation toward an urban economy is considered more diverse and complex. This is the real distinction between economic growth and economic development, since growth can happen without economic development (Beall and Fox, 2009, p.69).

The Libyan economy prior to independence can be described as one of the poorest in the world at that time, due to the lack of resources and the pervasive conditions of underdevelopment.

In the early 1950s, Libya had very few educated people, and the country's illiteracy rate was about 90%. Most of the courts, education, and highest positions were filled by skilled Arabs. In 1952, UNESCO (1952, p.11) described Libya as:

"an over-developed country in the sense of being exhausted; the present problems of drought, soil erosion, and drifting sands are the product of past errors of over-cutting, over grazing, over irrigation, and over-tilling, followed by abandonment."

The main economic obstacle in the first period of independence was one of human resources: the country suffered a severe shortage of the kind of skilled and educated manpower that is needed to develop a modern economy (Farley, 1971, p.94). Prior to the discovery of oil in the 1960s, the country was completely dependent upon agriculture, with an estimated per capita income of $50 and a negative growth rate. The new era of oil development, which began in the 1960s, rapidly increased economic productivity rates, supplied the economy with a massive source of income, and increased the growth rate from near zero to 20% (Ghanem, 1987 p.58). Oil revenues fueled economic development, led to a massive budgetary surplus, and fulfilled the demand for desirable import products that the local economy could not provide.

The contribution of oil to the Libyan economy has been remarkable: the country evolved from a state of misery and poverty to being a good example of political and economic renaissance. This transformation recalled memories of the beautiful past, when Libya was an advanced agricultural and commercial state, prior to its decline due to constant invasions by different empires over the centuries. This fact reminded the policymakers of Libya's bright history described in the UNESCO report (1952, p.11), which notes that:

"There is indeed ample historical evidence that Libya was once more heavily wooded, more fertile and more productive *per capita* than it is today, capable not only of supporting its own population but of producing a substantial export surplus of foodstuffs as well."

By the 2000s, oil accounted for about 97% of Libya's export earnings and 54% of its gross domestic product. Reliance on oil resources affected productivity and efficiency of other economic activities. Oil and natural gas made up 71.3% of the GDP in 2006, which meant maximizing the role of oil and natural gas, effectively paralyzing the non-oil sector. It is thus obvious that Libya has an overreliance on petroleum, and it lacks many other resources besides oil. The non-oil sector accounts for only 20% of the economy, and the country's arid climate severely limits the country's agricultural sector, which only provides 25% of the food necessary to feed Libya's population; The rest has to be imported (Central Bank Report, 2005). Despite the fact that Libya's non-oil sector is modest, some industries have been developed and show some economic potential. These include food processing, textiles, handicrafts, and cement. In the end, such industries will likely contribute new sources of income in addition to oil and natural gas.

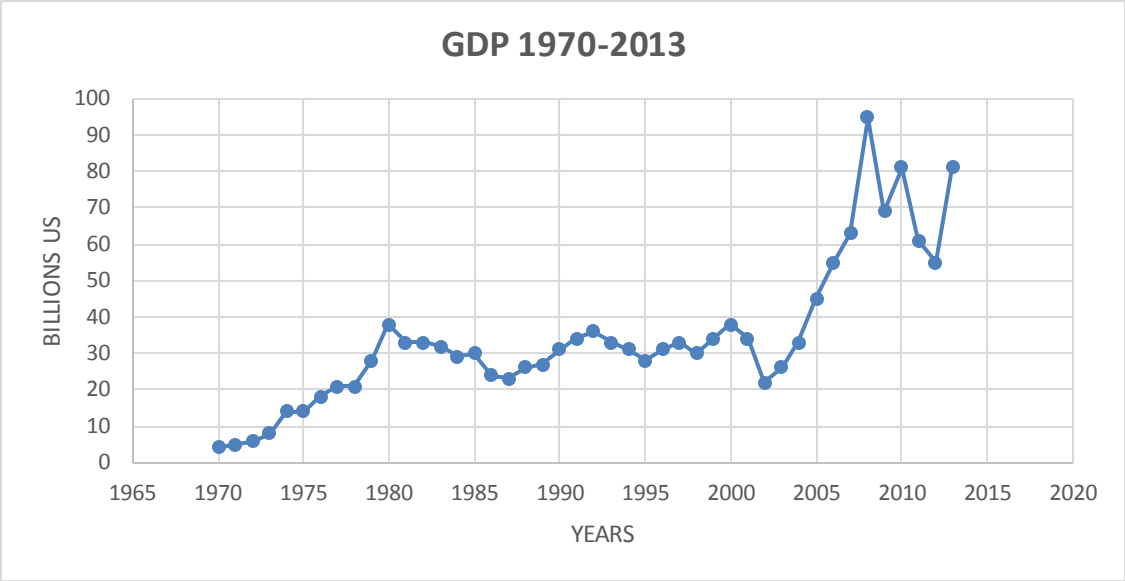
In addition to the physical climate, the political climate also has played an important shaping role in Libya's economy. Until recently, Libya had a socialist–oriented economy, which was totally controlled by the government. Economic planning happened according to the "Third Theory of Qaddafi," which concentrated on socialist principles, rather than following either Islamic rules or free market ideas. Todd (2007, p.30) has described the economic system as it developed under the late President Muammar Qaddafi (1998-2011) as extremely vague and unclear.

Joffe (2009, p.938), meanwhile, has described Libya's political system under Qaddafi as the antipathy of formal political processes. In his description of the system, he stated, "it has no

role, unlike the Libyan formal polity." In addition to the top political leadership, there were two significant actors: the Revolutionary Committees Movements and the Popular Social Leadership (Waniss, Karlberg, 2007. pp. 20-21). Those institutions were the key components in Libya's political system under Qaddafi, and were authorized to intervene in every single socio-economic plan at the local, regional, and national levels. Moreover, they were part of the political system in terms of being the bodies authorized to solve social conflicts and approve the selection of candidates for local and regional positions. Through such policies, the government was responsible for allocating oil revenues and implementing national development plans, which aimed at serving basic needs, such as roads, housing, and health services. According to Joffe, instability was the main political condition during much of the Qaddafi period. We will further explore the role of political and social perspectives later in this dissertation.

The data (Figure 2.8) shows that the Libyan GDP did not exceed $30 billion during the 1970s, while it increased from $30.7 billion in 1997 to $56.5 billion in 2006; by 2007, which the number had risen to $71.7 billion. This is largely a reflection of the rise in oil prices, and indicates the fact that rising oil prices provided a great opportunity for continual economic growth and the growth of a surplus, as long as the funds are wisely invested.

The trajectory of the Libyan economy shows two separate, but linked trends: the gradual increase in oil production largely coincides with a decrease in agricultural productivity. Although the Libyan economy has clearly benefitted from the development of its oil resources, this has also meant that it has pulled away from its former pillar: agriculture.

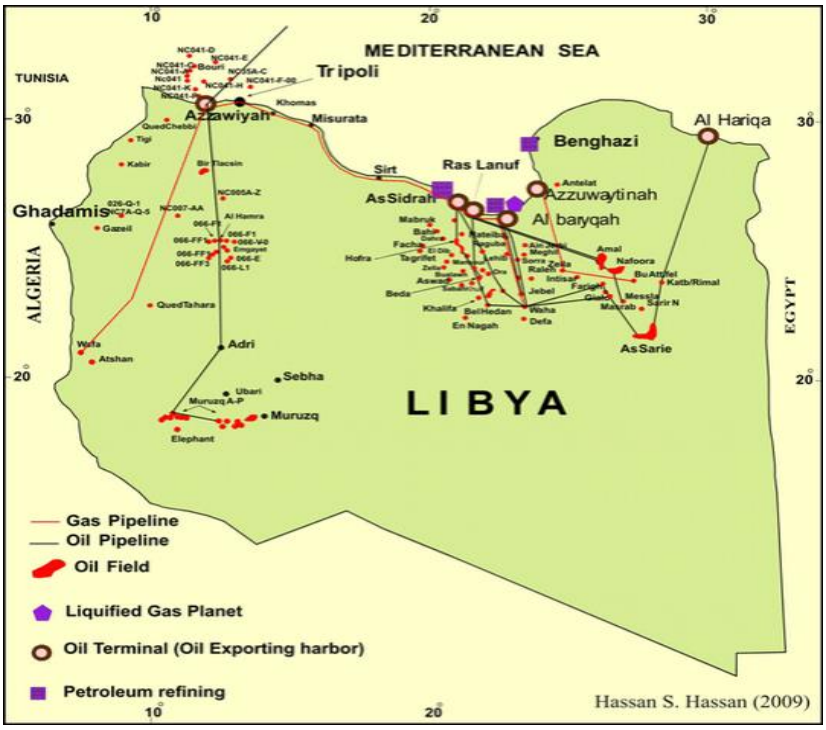


Source: World Bank,
Libyan Central Bank
International Monetary Fund

Figure 2.8 GDP 1970-2013

This shift has meant a sharp decline in the importance of agriculture to the economy that is depending on oil, and its proportion of the GDP has decreased, and the domestic food support system has been declining; consequently, the demand on food imports has increased. This has serious implications for the problem of urbanization.

The reliance on oil has been a big concern for economists and planners due to the collapse of agriculture, which was the backbone of the Libyan economy in the 1960s and 1970s. Figure 2.9 shows the geographical distribution of oil production in Libya. Oil fields are spread in the Gulf of Sirte basin including the Gallo, Mrada, and Sarir wells along the latitude 28 north.

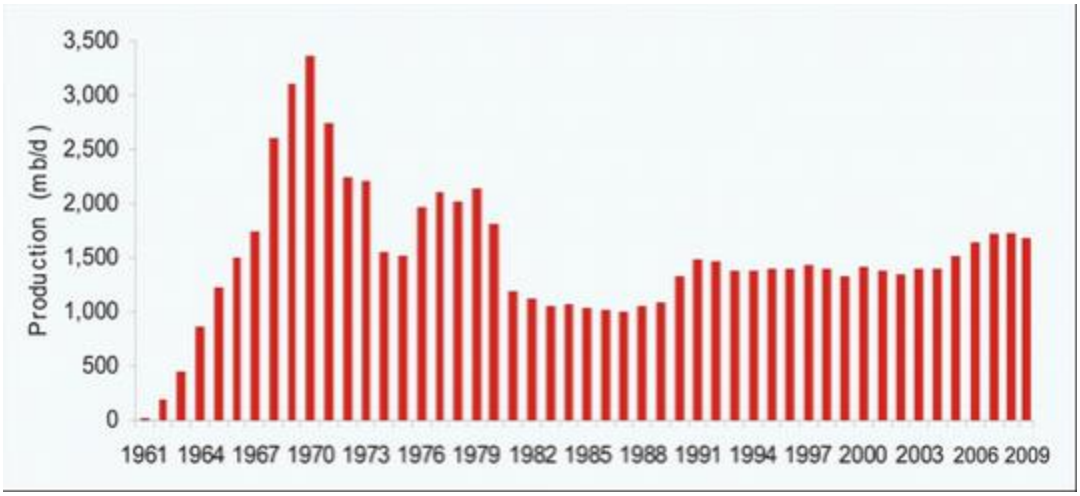


Source: http://www.sepmstrata.org

Figure 2.9 Libyan major oil fields, oil pipelines, and refiners

In addition, the oil fields are located in the Red Hamada province south of Tripoli and the Sabha province near the Algerian border latitude 27 north. The latter contains a large province, which extends far north to the Tunisian border and to the continental shelf along the coast, which contains a large reserve of natural gas.

Figure 2.9 shows the oil production from 1961 to 2009. The oil production gradually increased from 1961 until it reached the highest level in 1970 to about three million, four hundred thousand barrels before it started to decrease gradually until 1976. Oil production rose again to about 2 million barrels in 1979. This level of production maintained the development allocations for urban areas, which attracted more people to move to cities. This explains the disparity in development between urban and rural areas in figure 2.4.



Source: http://www.sepmstrata.org

Figure 2.10 Oil production of Libya 1961-2009

Since 1991, the oil production stabilized around the level of a million and half barrels until the beginning of the Libyan Revolution in 2011. During 2013, oil refiners and ports closed as a result of political and tribal problems for more than a year and half, which has caused a sharp decline in the oil production to only 300,000 barrels. This significant decline in the production confirms the concern of economists and planners on the reliance on the oil as a sole resource of the Libyan economy and the increased reliance on food imports as the national agriculture production has collapsed since the 1970s.

2.4 Agriculture and Food Sufficiency

Historically, Libya was well known as the "breadbasket" of the Roman Empire. The northeastern part of Libya, including the cities of Leptis Magna and Sabratha, supplied the empire with large amounts of food, including cereals and livestock. With this ancient history in mind, Libya became the "Fourth Shore" during the Italian colonization of the twentieth century and one of fascist Italy's chief sources of food (Waniss, Karlberg, 2007, p.308). After the ravages of the Second World War, it was not until the 1950s and 1960s that the agricultural sector was again on a strong footing and contributed substantially to the economy. However, Libya's arid climate has

been a constant obstacle for this sector. Libya is located on the northern African coast, and most of its land is desert. Excluding the coastal part of the country, which has a Mediterranean climate, the rest of the area is very dry, and receives less than 250 mm of rainfall per year (Metrological Center Data, Tripoli, 2009). This small amount of precipitation is not sufficient to sustain agriculture. Moreover, the rain falls only in winter, inconsistently, and amounts of precipitation vary wildly from year to year and from one region to another. Therefore, there has been a longstanding and pressing need to improve the domestic sustainable agricultural system, while relying on imports to compensate for the shortcomings of local production.

In the 1970s, Libya developed a domestic system for supporting the development of a sustainable agricultural sector, increasing national productivity, and strengthening self-reliance and self-sufficiency. This strategic plan was intended to ensure the independence of Libya's political decision-making. To some extent, these plans were successful: the national development plan from 1970 to 1980 showed a rapid increase of expenditures on agriculture from 23.4 million dinars in 1970 to 88.9 million dinars in 1973. By 1979, these figures had quadrupled to 379.7 million dinars, and they increased to 446 million dinars by 1980 (Ghanem, 1987, p.63). The agricultural expenditure in the 1980s amounted to about 10% of the expenditure of the national development plan, since the political leadership aspired for advancing the national economy regionally and internationally.

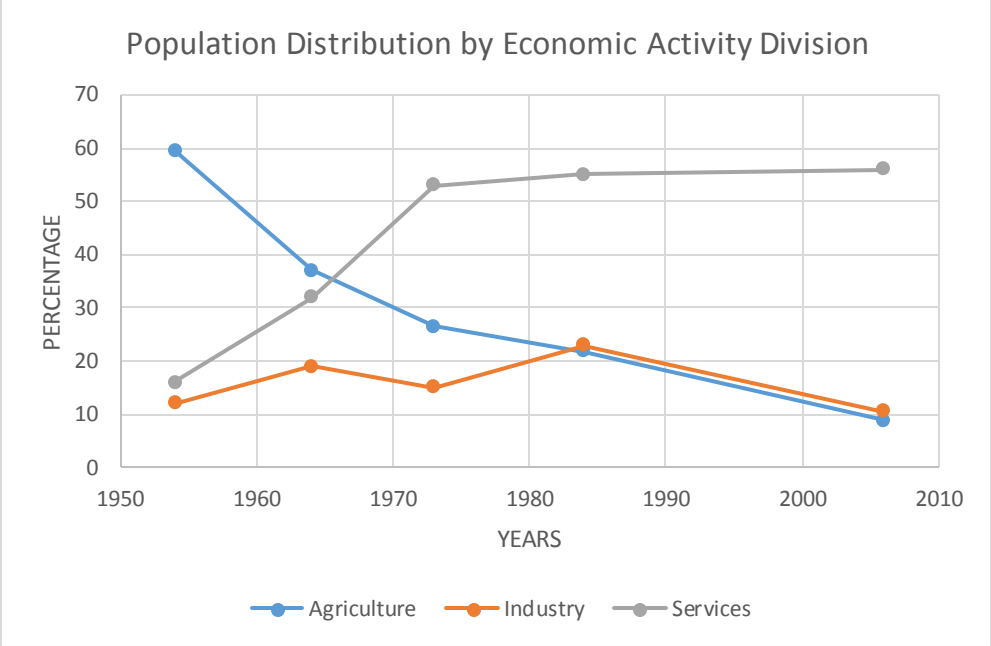
Archival data from the Ministry of Planning in 1981 show that food imports continued to dominate the economy. Imports had increased significantly between 1960 and 1969 from 10.2 to 30.7 million dinars. These figures continued to rise rapidly, from 39.3 to an astonishing 238.1 million dinars between 1970 and 1980. Thus, despite the funds allocated to agriculture, growth was slow, and did not meet the plan's objectives. The main reasons were geographical and climatic

factors, water shortages, and low productivity due to the lack of advanced equipment and agricultural machinery. Waniss (2007, p.310-311) has emphasized that, despite these failures, agriculture expenditures amounted to 11.4% of GDP during the years 1962 through 1969, and increased to 21% in the 1970s. These numbers fell to 14.3% in 1980s, before slightly increasing, to 17.2%, in the 1990s. Again, agricultural expenditures decreased sharply during the 2000s before stabilizing at a modest 7%.

Corruption continues to be a major problem in the agricultural sector (M. Albousaifi, phone interview, November, 13, 2014). M. Albousaifi, the former head of the Libyan government's Agriculture Economic Division in the Planning Ministry has stressed that very large agricultural projects were established in several locations in the late 1990s and early 2000s, but that their management occasionally shifted due to political pressures from influential actors in the government. Indeed, these agricultural projects are technically owned by the Libyan government, but are in reality under the control of the aforementioned political actors, and the projects themselves are rather fortuitously located near their hometowns in the western and southern areas of the country. Additionally, Albousaifi mentioned that politics tends to exert a very deep influence on the planning process, especially concerning the control and influence exerted by important names in the political system. Interestingly, most of these figures are associated with the military, who direct the operations of these agricultural ventures to the point of dictating decisions related to finance, type of employment, and production and profit shares.

The rise of the oil sector thus coincided with a sharp increase in food imports, since the share of agriculture in Libya's economy has progressively declined. As Ghanem (1987, p.62) has argued, the consequences of the disparities between different sectors of the economy include huge

gaps between those who work in the oil and service sectors, and the rest of Libya's population, as well as between the country's northern regions, Tripoli and Benghazi, and the south.



Source: Population censuses

Figure 2.11 Population Distribution by Economic Activity Division

These gaps ultimately have led to the wave of migration from less developed rural areas to urban centers.

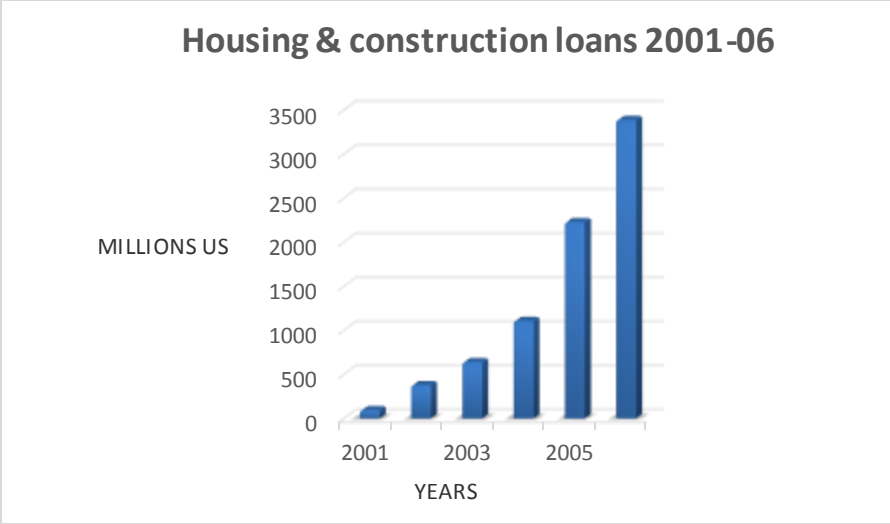
Economic development and overreliance on oil has led to a significant decline in the number of workers in agriculture, forestry, and grazing, which have traditionally served as domestic food sources. However, as people abandon agriculture and move to cities, demand for agricultural products increases rapidly. Census data (Figure 2.11) show a remarkable development, wherein Libya experienced a profound economic transformation and agriculture output decreased sharply. The number of workers in the agricultural sector decreased dramatically, from 59% in 1954 to 26.65% in 1973. These numbers continued to collapse, and by 2006 the contribution of agriculture to the economy did not exceed 8.8%. This decline is due to the disappearance of funding linked to the cessation of subsidies to the farmers, who could no longer count on

governmental support for purchasing tools and other equipment-reduced prices. In addition, because of the increased expenditures devoted to urban development, as well as the political shift towards a poorly conceived socialist economy, which encouraged government support of small industry with subsidies, a large number of Libyans left the agricultural sector in favor of the service industry. Accordingly, foreign workers from neighboring countries and Egypt in particular, have filled in the gap and become dominant in the labor force in agricultural production and marketing.

Similarly, the progressive growth of the industrial and service sectors in urban areas has intensified labor migration towards coastal cities. Partly due to the increase in internal migration (as well as natural population growth), the government has allocated more and more funding for housing in most large cities. This new housing policy, in turn, has led to a massive increase in demand for land, rental properties, and new housing construction. These policies have also led to massive rural-to-urban movements within the country, creating even more pressure and demand for already stretched housing and services. Government policies have thus helped to produce the very situation they were intended to address.

Providing home loans is one of the most important aspects of attempting to improve living standards in Libya. Housing prices were very low during the 1970s and 1980s, due to governmental housing policies, which assisted citizens with long-term (10 – 15 years) loans; recipients received support through local and regional professional associations. Those associations directed verified recipients to designated banks, where they would receive their loans based on specific timetables. This mechanism quickly solved the demand on housing and, consequently there was a low demand for housing until the early 1990s. Unfortunately, the pressure and the demand on housing has increased significantly and rental and purchased housing reached the highest costs ever.

However, particularly in larger provinces, residents began to experience a housing shortage in late 1990s and early 2000s. Consequently, the government launched new projects to provide residents with loans, both in cities and in rural areas, to help them cope with the housing shortage. A quick look at Figure 2.12 indicates that the number of loans increased rapidly in 2004, as an attempt to overcome the housing shortage. Since 2001, the government has allocated $3.643 billion US dollars for housing expenditures. This wave of construction has, in a very real way, changed the urban landscape, since the housing construction boom has been concentrated in major urban centers and their peripheries.



Source: Ministry of Planning 2008

Figure 2.12 Housing and Construction Loans 2001-2006

Due to the gap between the Urban Planning Authority and the decision-making centers, most of the construction and the housing projects' loans were processed through local urban planning authorities. Unfortunately, those authorities often lack adequate urban planning regulations and code reinforcement. This situation, coupled with a drastic over-estimation of the monitoring power of planning institutions over housing construction, has encouraged residents and households to violate urban planning laws and regulations. Consequently, easy access to home

construction loans has led to a massive expansion of urban peripheries, rather than attempts to place new residents in existing urban networks. This expansion has caused a number of environmental issues and resulted in urban sprawl in Libya's coastal cities.

As this chapter has demonstrated, policies that concentrated services and administrative capacities, as well as physical constraints, have all contributed to the rapid growth of Libya's urban population. Social and economic development, increasing incomes, urban living preferences, and inconsistency in national policies have substantially affected the growth of the city of Tripoli, as well as other cities. At the national scale, these processes have in turn pushed even more of the country's population towards the cities, leading to a remarkable expansion in urban peripheries and fringe areas. The next chapter will discuss in depth patterns of urban growth in the colonial and post-colonial periods, and will employ remote sensing data to analyze its effects in the 1980s to 2014.

Chapter 3: The Growth of Tripoli

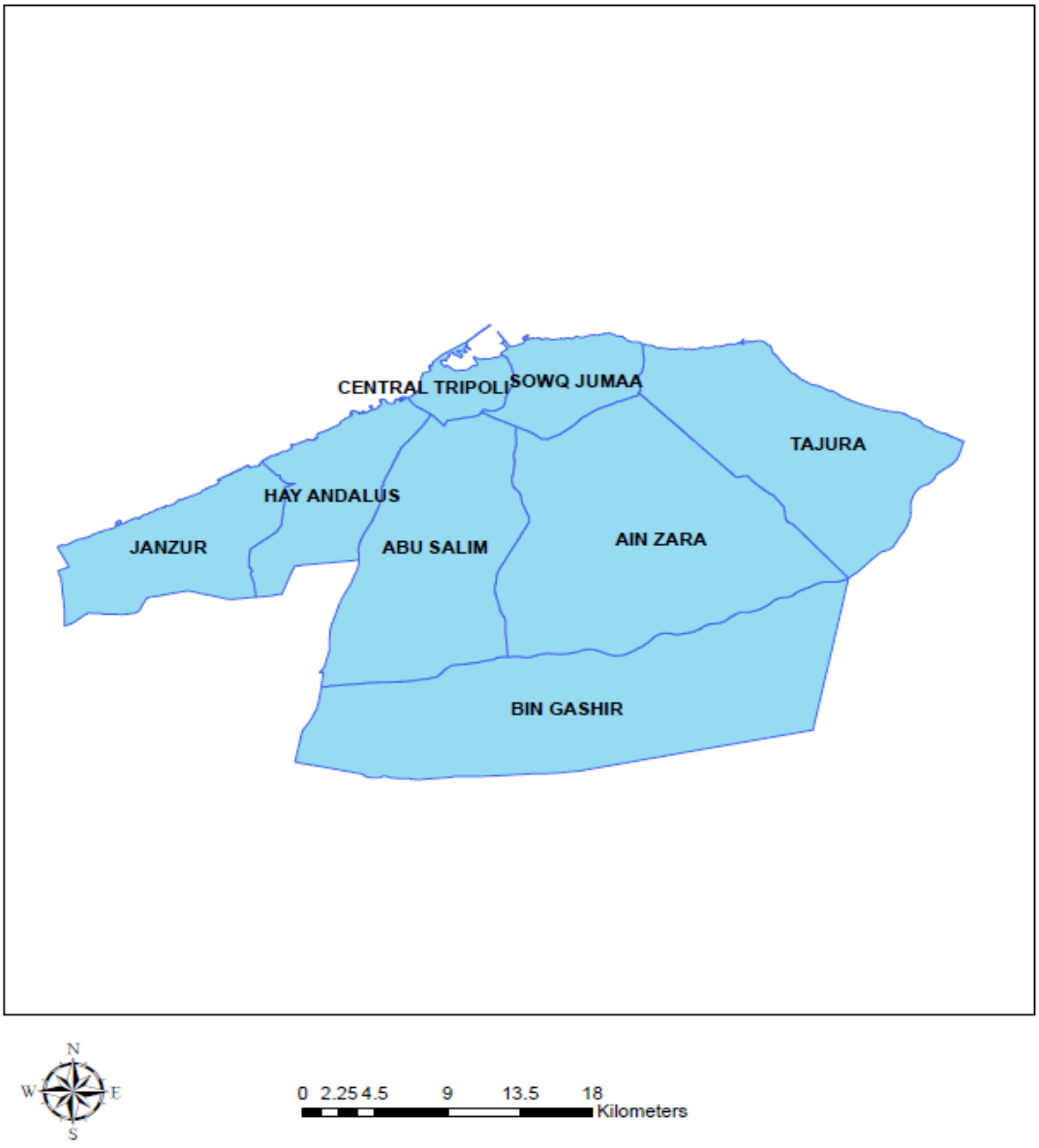
3.1 Geographical settings of Tripoli

Tripoli, the capital of Libya, is situated in the northeastern part of the country in the Jeffara Plain. Since it is the political, economic, and cultural center of Libya, it has been the most urbanized and dominant city. The geographical and topographical settings have shaped the growth of the city along the coast and along transportation routes in greater Tripoli. The metropolitan area of Tripoli has expanded greatly from 134 sq. km in 1980 to 1,003 sq. km today, stretching about 50 kilometers east to west, and 21 kilometers from north to south. The city consists of eight districts as shown in Figure 3.1. The physical location on the Mediterranean Sea has provided a diversity of the human occupants from different origins who arrived in Tripoli for centuries and their interaction with the environment, which has shaped its structure as the city expanded along the sea coast and far south toward the Jeffara Plain.

All of these historical, economic, and cultural attributes such as the networks of origins and their influence over urban planning practice, have contributed to the formation of the city structure and its growth direction, while the human role has contributed to the internal structure of the city through the social composition of the population. The physical influence and historical foreigners' footprints have played a big role with the contemporarily urban residents and their impacts on the environment and

Tripoli has been an urbanized center for centuries. Empires have built many cities and urban centers on the Mediterranean coast throughout history. Those cities are still thriving since their construction by the Phoenicians, Greeks, Romans, Byzantines Arabs, Muslims and then the Ottomans and Italians. Different systems of settlements linked to the cultures, economics, and politics of each civilization developed in those cities and urban centers. Figure 3.1 shows the

districts of Tripoli, Central Tripoli, Sowq Jumaa, Hay Andalas, Janzur, Tajura, Abu Salim, and Ain Zara.



Source: GIS work by researcher

Figure 3.1 Tripoli Districts

The first urban phase of Tripoli's urban history began when Phoenicians established Tripolitania, the region of three cities, Tripoli (Oea), Sabratha, and Leptis Magna as the main centers of trade on the Mediterranean Sea, and connected their trade centers in Libya with others

in Lebanon. In 500 BC, the Carthaginians invaded Tripolitania and ruled it for more than 350 years until their rule ended in 150 BC.

The second phase of the Libyan urban history began when the Romans occupied Tripolitania and Pentapolis (the five cities in the Eastern Part of Libya) in 148 BC. This was the first time in history that one governor ruled both regions. Romans continued to develop Tripolitania's cities, Oea, Leptis Magna, and Sabratha by expanding the built-up areas. The built-up areas included residential, commercial, and industrial land uses. In addition, Romans built new residential, recreational, and administrational areas, as well as transportation routes. The development of the region made Tripoli the capital of the Roman Empire in Africa under the rule of Emperor Septimius Severus. Tripolitania became the exporter of Tropical African production to Rome due to its transitional location, as most African products had gone through it to Europe, which helped in the growth of the city as one of the important ports in North Africa. (Bolgma, Kezeiri, 1995, pp. 397-400)

Despite this prosperous urban Libyan history especially for Tripolitania, it did not prevent periods in which urban centers suffered great devastation, such as when the Vandals invaded the Roman Empire in 410 AD, prior to their invasion of North Africa and destroyed Tripolitania and what the Romans built over five centuries. Tripoli suffered from massive destruction of most of the residential areas, public buildings, and its walls. Moreover, Vandals looted Tripoli's arts and antiques. This led to a mass exodus of its population to neighboring areas where the Vandals had not invaded. In 533 AD, the Emperor Justinian liberated North Africa from the Vandals and began a new plan to monitor and develop the countryside in addition to urban areas. This Byzantine Period brought a remarkable shift in the Roman planning policy where they built forts, castles, and developed farms (Farley, 1971, p.33). After settling in

Cyrenaica, the western part of the country, Arab Muslims came to North Africa in 642 AD, and it took them a decade to control all Libyan lands. Indeed, the dominance of Arab Muslims ended the presence of Byzantines in North Africa

Tripolitania and Libya in general, suffered an additional phase of deterioration during the assaults of Banu- Salim or Banu- Hilal who destroyed many towns and cities along the North African coast, as well as the assault of the St. John Knights, which was ended by the Ottomans in 1551. Furthermore, during the Ottoman era Cyrenaica became part of the empire in 1640; therefore, Benghazi became the main center surrounded by many secondary urban centers. The city of Tripoli with its open location on the Mediterranean Sea was a target of sailors, smugglers, and pirates; the control of the fortress allowed domination on the coast and in the inner city. This dominance over the city continued for centuries as Figure 3.2 shows the location of the city and its port in 1746, the area of the city inside the walls and connected to the port.

The Ottoman Empire ruled the North African region for almost four centuries, 1551 to 1911, and established a history of urban planning in Libya. It has been considered one of the most prosperous eras in terms of urban development. Ottomans built restaurants, cafes, and shops, and they developed commerce and trade centers. In addition, Ottomans constructed Masjids (mosques) and schools.

In terms of infrastructure, the construction of the salt flat of Tajura as well as the improvements of the Harbor of Tripoli were Ottoman achievements. As a result, Tripoli became the most important and developed urban center in Libya, and its population grew significantly as migration from rural areas increased and spurred economic and urban development projects. The city became a diverse cultural center that combined Europeans and Jews, in addition to Ottomans and Libyans (Bolgma, Kezeiri, 1995, p.402-403).

Source: Jacques Nicolas Bellin's 1764 atlas

Figure 3.2 Tripoli Map 1764

Missionary groups acquired knowledge on behalf of Italian political interests prior to the Italian invasion and ruling of Libya in 1911; as in other parts of Africa, they became the "forerunners" of colonialism (Freund, 2007). The ambition for a colony had led the Italians to the Libyan coast; that coast came to be considered the fourth shore of fascist Italy in the 1930s, based upon the Nazis' lebensraum theory (Godlewska and Smith 1994). The growth of Tripoli continued and expanded under Italian rule that ended in 1942, based on the Italian city planning system. During the thirty years of occupation, about 50 million Libyan pounds were spent on developing utilities and public services (Farley, 1971, p.36). Land reclamation and agricultural development was an incentive to settle thousands of Italians in Tripoli's region, particularly under the fascist regime of Benito Mussolini in Italy, who began a major push for Italian settlement in Libya in 1935. This led to a massive urban transformation as many Libyans were

expelled from agricultural and arable lands in Tripoli and its suburbs, which changed the social and economic structure entirely.

The Italian domination brought European urban planning and design principles, which made the city of Tripoli an extensive urban center with a modern well-planned business center outside the old city's wall. The new growth developed according to the land use plans and European architectural design ideas, resulting in a very distinctive landscape (see Figure 3.3). This map shows very-well organized land uses based upon planned streets and roads, which represents the European design of urban planning. For instance, there is distribution between religious uses based on each group, Christians, Muslims, and Jews each group had its own religious facilities including worshiping places and cemeteries.

This design is still the core of the Tripoli central business district where most of the administrative and commercial buildings are utilized contemporarily. The new urban planning evolution led to a well-managed city and that reduced the concentration of population inside the old city. This allowed population to move outside the walls in open and wider spaces.

Source: S.A Arti Grafiche Panetto & Petrelli – Spoleto, University of Kansas Maps Collection

Figure 3.3 Tripoli Map 1940

Tripoli has been a great center historically and remains the highest populated city in Libya due to its status as a political and economic center. Tripoli has grown greatly as a capital and as a center of Tripolitania, the heart of the western region to become the nation's predominant city in the twenty-first century. This predominance has affected the planning system at regional levels throughout the country favoring the urban centers and neglecting the rural and countryside areas.

The predominant and influential level of the city of Tripoli has been always an attribute of Libyan urbanization. The old city with its significant influence in terms of economic and social structure, as the city connects the past and the present through its economic and social roles, represents the base for urban planning of outside the old walls.

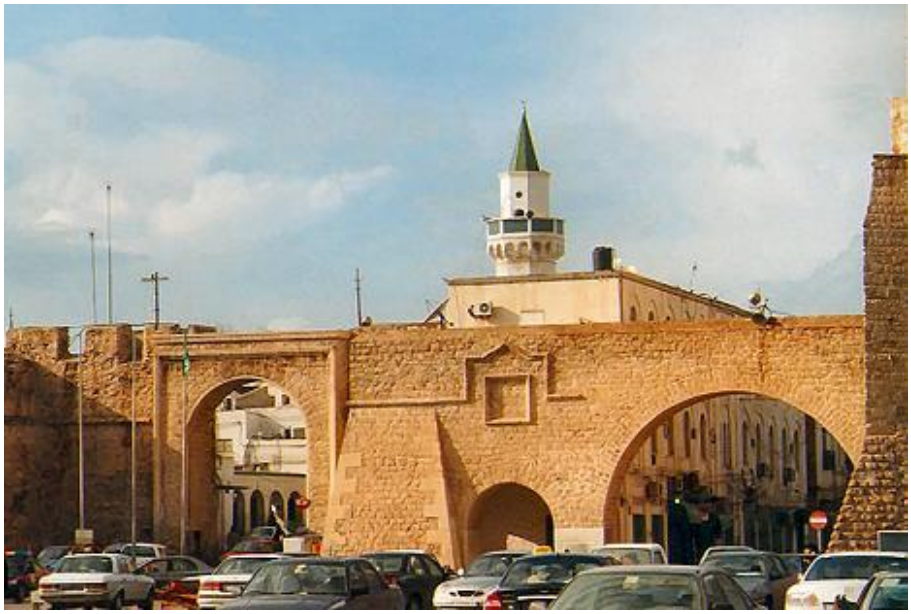
3.2 The identity and structure

The city of Tripoli's structure has developed throughout the history of occupiers of the country, in a manner commonly considered sequent occupancies in cultural geography (Whittlesey, 1939). Each era and period has brought its characteristics, which have affected the identity and the structure of the largest urban center in Libya.

Due to the importance of the location of the country and Tripoli in particular as the crossroad of the region on the southern shore of the Mediterranean, several occupiers landed on its shore and built what are well known as remains of those different civilizations. The question is: to what extent does the city represent each of those civilizations, since so many civilizations had influence and left footprints on the ground? Moreover, what is (are) the most influential occupier(s) in Tripoli's urban history and system in Libya? In order to give answers regarding the city's identity, emphasis should be given to understanding the structure of the city and its landscape, fabric, and pattern. It is the traditions and modernity dialogue that bring up the comparison dealing with city components and elements in the context of the urban identity.

There has been a common regional connection within the cities in Northern Africa, which have grown physically at different stages based upon religious and cultural values and principles. The best example of the northern African city can be identified through the old part of the capitals and historical heritage centers. The city comprises two life aspects of the human interaction physically, between old and modern city structure, and socially between two different lifestyles.

The growth of cities entails a constant contestation between a somewhat harmonized local lifestyle versus a modern complex lifestyle (Wirth, 1938). The core part of the city with a small historical side is known as Medina, which represents the heritage site (Hakim, 1986). In contrast, the Medina is surrounded by a fast growing city center with larger size buildings, streets, and roads, as well as a modern architectural design.



Source: http://looklex.com/libya/tripoli.htm

Figure 3.4 Old City of Tripoli

The latter represents the evolution of extensive planning and construction, including different forms of design. The old Medina carries a small proportion of the population, area, and

activities, but plays the role of "island of commerce" in which the traditional professions such as precious metals, clothing, and leather products are located.

The structure of the Medina has special elements; it is built centrally around the Mosque, which represents the religious core. It is a well-known structure of Medinas in Arab-Islamic cities, in which mosques are the center and surrounded by commercial and services land uses (Hakim, 1986). It is the old core island of tradition surrounded by the modern fast growing formal Western design and architecture. Additionally, the old core city has been distinct within the fabric of the city by dividing it into squatters and sub-squatters (*haraat*), which all build around the mosque, then shopping areas, and public buildings. At the city level, the most important place is the dar-imarah (Saqqaf, 1987, p.44), which is known now as the city hall.

3.3 Population Change

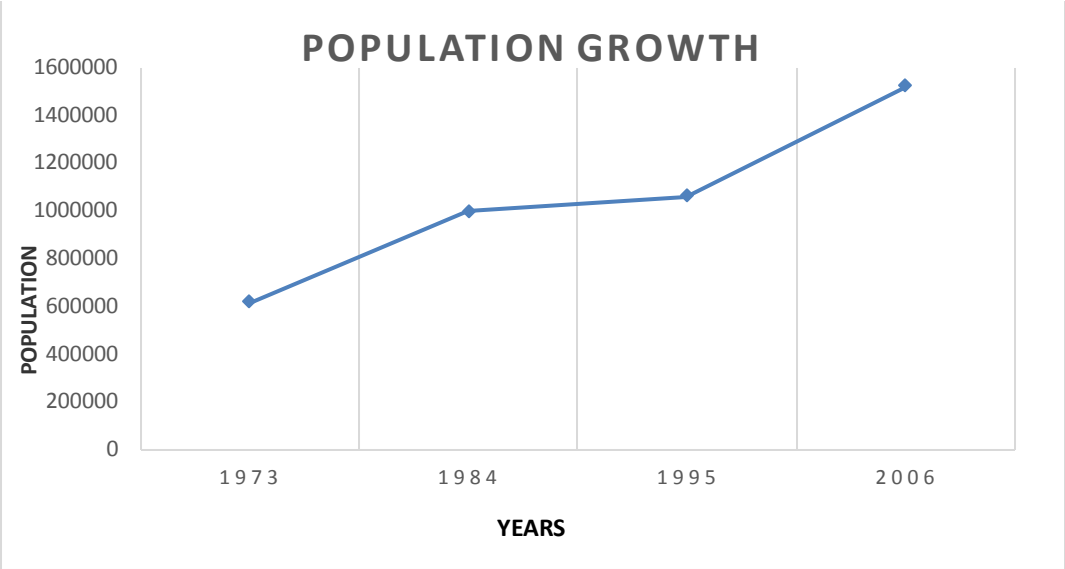
Despite the fact that the population growth of Tripoli has varied throughout censuses, the obvious increase began in the early 1970s, in which the population increased from 615,161 people in 1973 to 994,136 people in 1984. The total population in 1995 reached 1,059,000, and finally in 2006 the total population was 1,519,999 people. As we have seen previously, there were different periods of growth; between censuses in 1973-1984, the population grew significantly, with a change of 378,975 inhabitants. The second growth period was between 1984-1995 when the growth slowed to only 64,864 new net inhabitants, while the growth increased significantly by 460,000 inhabitants between 1995 and 2006.

Table 3.1 Population Growth of Tripoli

Years	1973	1984	1995	2006

Total Population	615161	994136	1059000	1519000

Source: Population Censuses
World Bank data

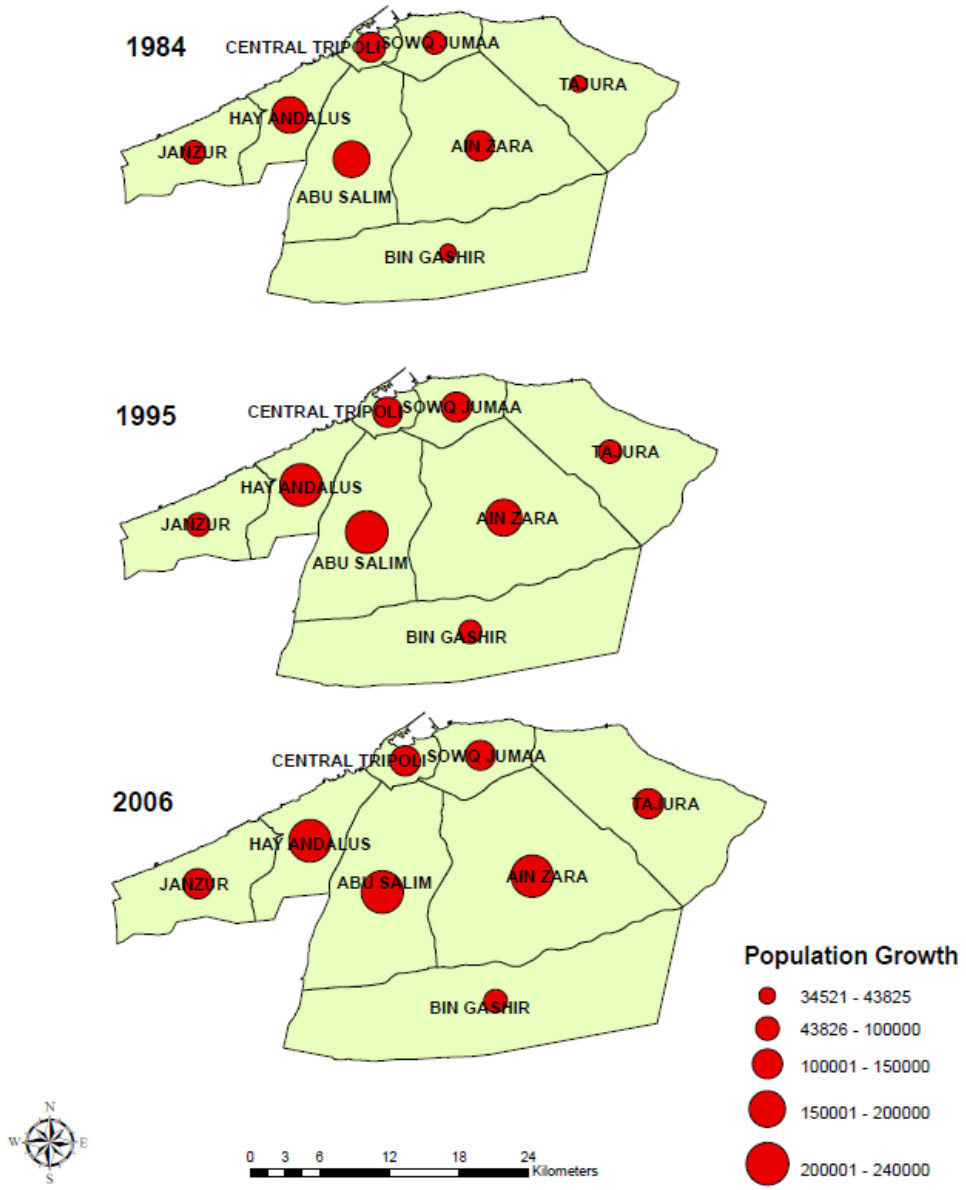


Source: Population Censuses 1973, 1984, 1995, 2006

Figure 3.5 Population growth of Tripoli

Population grew much more slowly over the period from 1984 to 1995 due to economic conditions and the international sanctions based on political problems with the West, in which most infrastructure and development projects stalled completely. The population increased again between 1995 and 2006, gaining around a half million inhabitants due to the economic growth and the enhancements in the life standards as the country opened up for national and international investments. This led to more interregional migration for the labor market and diversifying of economic activities.

It is important to mention that the period between 1995 and 2006 had a notable increase of internal migration. Young citizens moved from other towns and cities to Tripoli seeking education, jobs, and better lives, becoming an attribute of the rural to urban migration

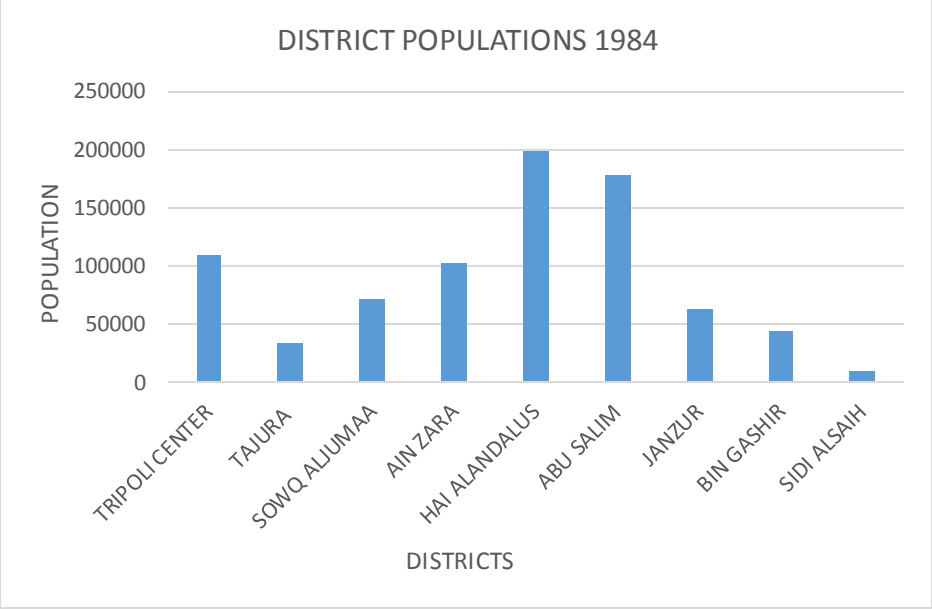


Source: GIS work by researcher

Figure 3.6 Population distribution by district

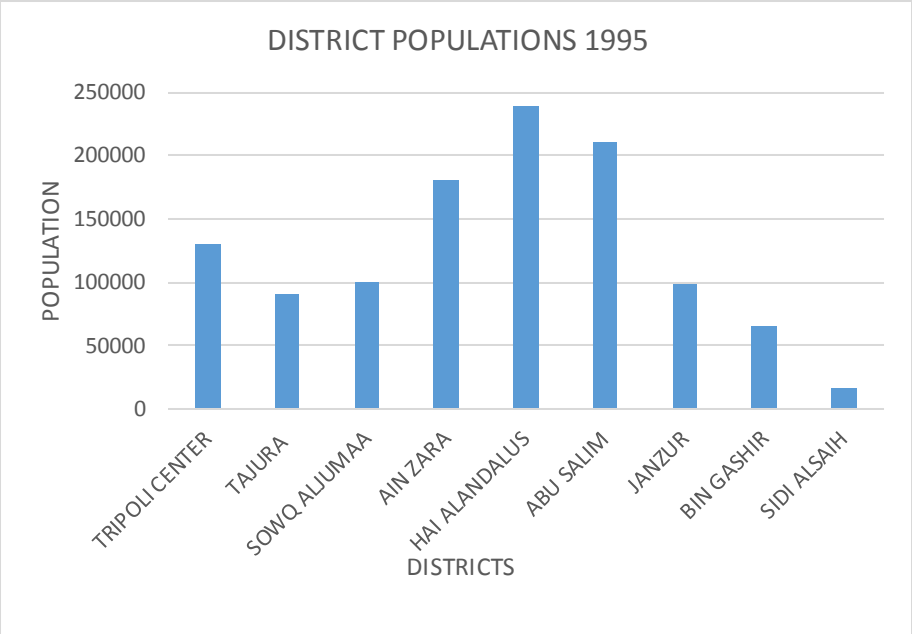
Figure 3.6 shows the growth and distribution of population by district over thirty years from 1984 to 2006. The outer districts including Tajura, Janzur, and Bin Gashir, have gained more population where most of new internal and external migrants reside.

The following Figures, 3.7-3.10, show the population growth of Tripoli's districts. Ain Zara district clearly gained population in 1995 and 2006. This district was a sparsely populated district in the 1980s, because it was considerably beyond the city limits on the urban periphery. Moreover, this district, along with Tajura district, was an army center; most of the military compounds are located in those districts. In addition, they were located inside the green ribbon, a strip Libyans planted under Italian supervision, which lined up with the city limits. It is worth mentioning that in the 1990s high-ranking army officers or other owners removed and burned most of that green ribbon, sold it, and then converted it to small farms, which became later residential centers and expanded to be part of the greater Tripoli area.



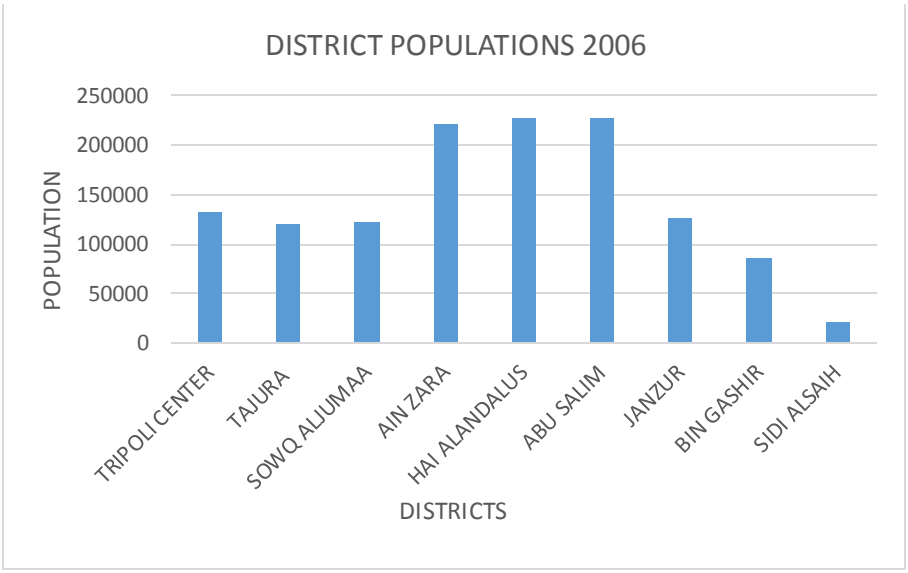
Source: Population Census, 1984

Figure 3.7 District Populations, 1984



Source: Population Census, 1995

Figure 3.8 District Populations, 1995

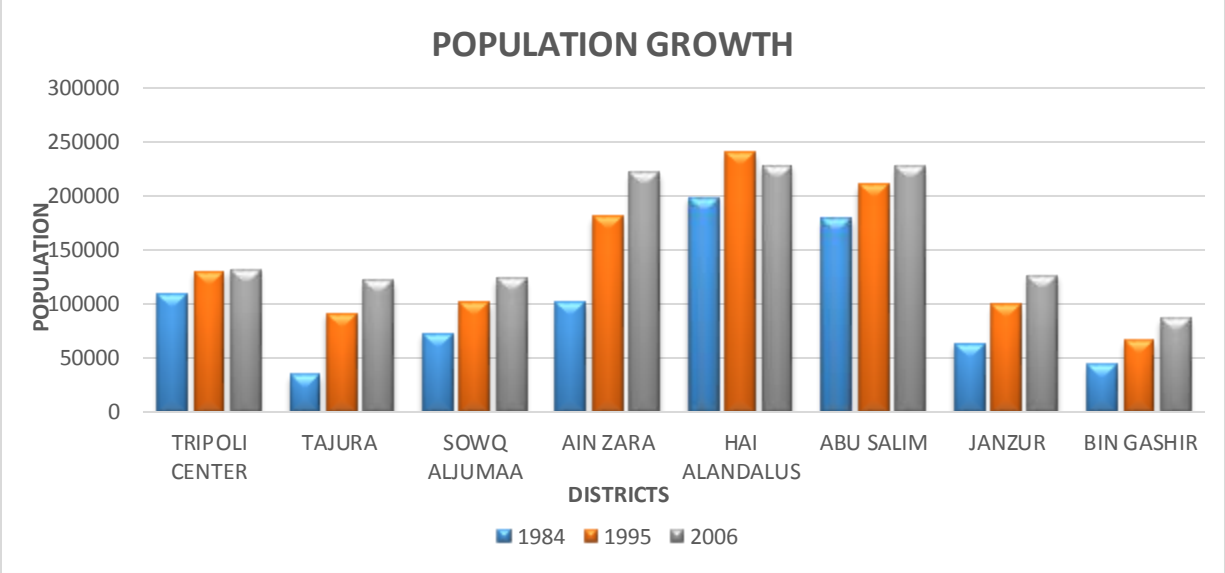


Source: Population Census, 2006

Figure 3.9 District Populations, 2006

Tajura district grew quickly and significantly. The district tripled from 34,521 in 1984 to 90,789 in 1995. The district's population grew another 30% with an increase to 121,423 people in 2006. Tajura district has extensive lands, which became the site for investments in

urban expansion. Most of the lands were owned by the state and were sold -in most cases, informally. The mechanism was to demolish buildings in some official areas or through deforestation in order to sell the land and turn it into housing. It was considered a social luxury to buy land and own a farm at expensive prices due to the economic hardship conditions in the early 1990s. Later on, land prices dropped significantly and the majority of people were able to buy land in the urban peripheries. Those lands were sold to residents from central districts or to those who sought jobs to enhance their lives by moving from rural to urban areas. Tajura and Ain Zara districts used to be the cheapest areas where the newcomers could settle, be close to the city, and have access to urban services, a common pattern for informal settlements in other African cities (Myers 2003). However, land prices have increased significantly due to the high demand for new lands and the pressure of the migration flow on the city and the peripheries.



Source: Population Censuses 1984, 1995, 2006

Figure 3.10 Districts Populations

There is a noticeable increase in the population in Abu Salim district in 2006, approaching the population of Hai Alandalus district, which is the largest district in the city of

Tripoli. The Hai Alandalus district suffered a decrease in its population between 1995 and 2006 due to the renewal projects of parts of the district and the movement of many residents to the suburbs.

The rapid growth of Abu Salim occurred because it has a larger land area compared to other districts. In addition, Abu Salim district contains one of the largest agricultural projects in the province of Tripoli, which has now been transformed into a residential area as a result of a complete absence of monitoring and enforcement the agricultural protection and urban planning authority laws and regulations. Consequently, there has been a massive land transformation, in which most lands have turned into residential areas within a short period.

3.4 **Population Density**

Population growth over time was assessed based upon the population censuses from 1984, 1995, and the last population census in 2006. The population data were prepared in excel sheets and joined to the city districts map that was created in order to illustrate the changes of population growth. The city districts map I created was a result of the lack of digital and physical paper maps of the city despite the governmental attempts toward converting all analogue maps into digital in order to build a geodatabase for the urban planning authority particularly and the panning system in general.

During the last three decades, the population of the city of Tripoli has been growing rapidly due to the urbanization by natural growth and migration, which, as I have shown, added more urban dwellers from rural areas as well as more foreigners. The population density was obtained by measuring the number of persons per square kilometer in the whole area of each district of the city. The density of the city was 798 persons per square kilometers in 1984, which increased to 1114 in 1995, and reached 1260 in 2006.

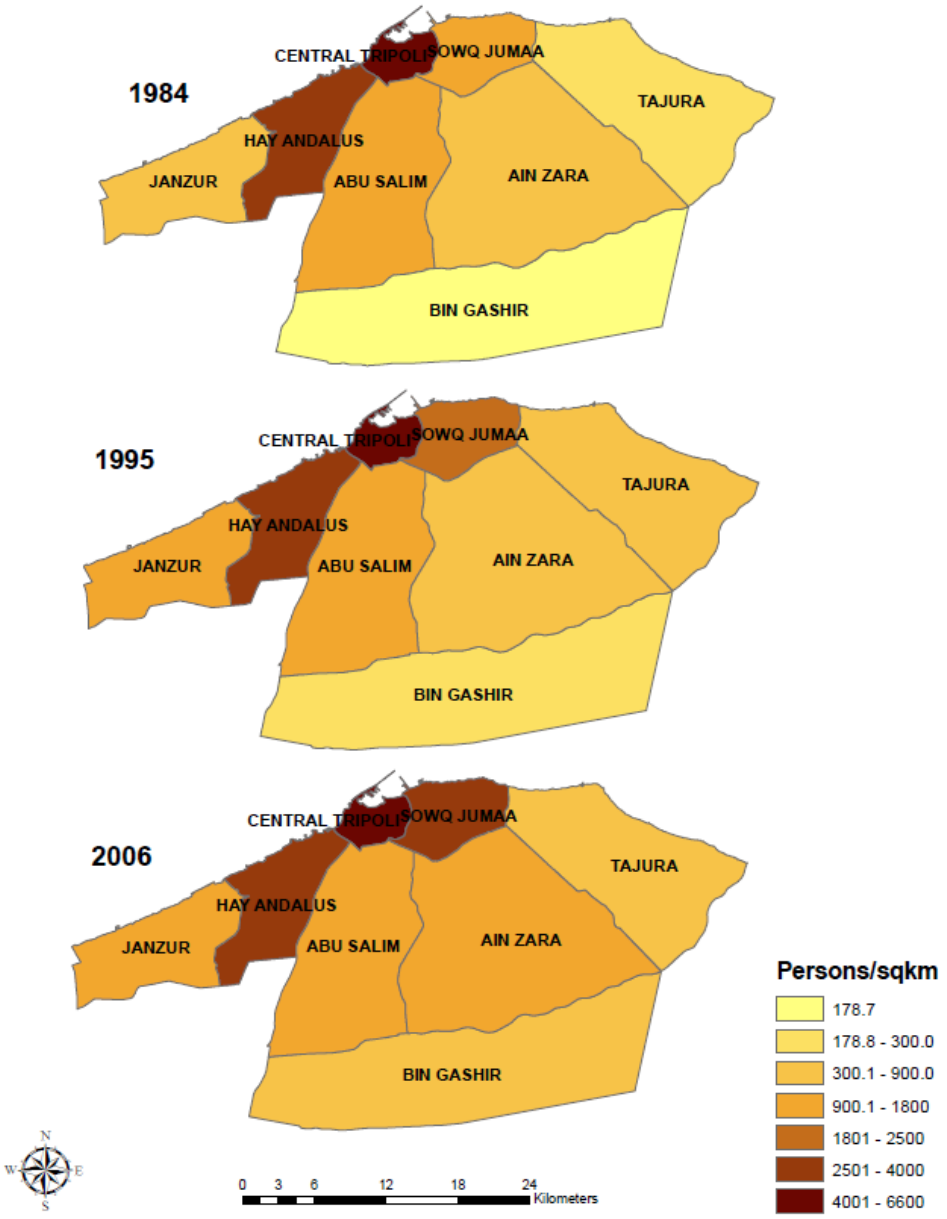
The population densities vary over the city districts according to the censuses, from 178 to 6600 persons per square kilometer. Table 3.2 shows the calculated densities of the city districts, in which the Central district has the highest density over the census because it is the smallest district with the highest concentration of population. The Central district contains the "Medina," the Old City, which contains a large number of compact and old buildings inhabited by low-income families, and large numbers of households.

Table 3.2 Population Density

DISTRICT	Area Sq. Kilometer	Population 1984	Density	Population 1995	Density	Population 2006	Density
Central Tripoli	20	108899	5444	130105	6505	131719	6585
Hai Andalas	69.1	198247	2868	239976	3472	227694	3295
Janzur	83.2	63177	759	99217	1192	126025	1514
Sowq Jumaa	45.1	71894	1594	101019	2239	122898	2725
Tajura	151.8	34521	227	90789	598	121423	799
Abu Salim	154.4	178445	1155	210455	1961	227468	1473
Bin Gashir	245.2	43825	178	65524	267	86026	350
Ain Zara	234.3	102350	436	180539	770	221341	944
8 Districts	1003	801358	798	1117624	1114	1264594	1260

Source: Population Censuses
Densities calculated by researcher

This sector is surrounded by another one that contains more condominiums that are residential with high population density as well. The central district had 5444 persons per square kilometer in 1984, which increased to 6505 persons in 1995 and then slightly increased to 6585 in 2006.



Source: GIS work by researcher

Figure 3.11 Population Density by District

The second highest density of the city was Hai Andalas with 3295 persons/ sq. km, which is the closest district to the center; it contains three different housing areas, low density and high-income villas, medium income housing, and low-income neighborhoods. The latter were built for the migrants from rural areas who obtained approvals to get subsidized lands and

housing loans in the late 1970s and early 1980s. This housing program was supported by the government under the supervision of the urban planning authority and the ministry of housing, which recently classified these as renewal areas - and therefore most of them would have to be re-built, according to the housing and planning ministries.

Figure 11 shows the density of the city of Tripoli by districts based upon the calculated areas of districts and population in 1984, 1995, and 2006.

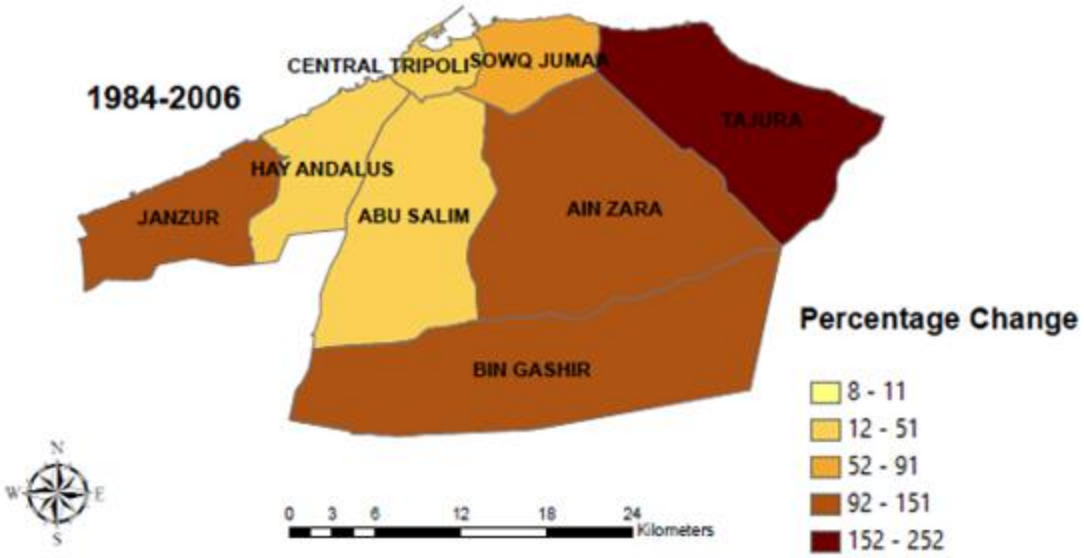
Table 3.3 Population Percentage Change

DISTRICT	1984	%	1995	%	2006	84-06 %
CENTRAL TRIPOLI	108,899	19.5	130,105	1.2	131,719	20.9
HAI ANDALAS	192,247	21	239,976	-5.1	227,694	14.8
JANZUR	63,177	57	99,217	27	126,025	99.4
SOWQ JUMAA	71,894	40.5	101,019	21.6	122,898	70.9
TAJURA	34,521	162.9	90,789	33.7	121,423	251.7
ABU SALIM	178,445	17.9	210,455	8	227,468	27.4
BIN GASHIR	43,825	49.5	65,524	31.2	86,026	96.2
AIN ZARA	102,350	76.4	180,539	22.6	221,341	116.2

Source: Population censuses

The population percentage change varies from one census to another according to the data shown in Table 3.3 and visualized in Figure 3.12. It is clear that Tajura had the highest increase of 162% in 1984, and 251% in 2006. Ain Zara district was second in the degree of change with 76% and116%, in 1984 and 2006, respectively. These two areas were followed by Janzur and Bin Gashir districts, which had the highest percentage change with 57% in 1984 and 99% in 2006 for Janzur and 49% and 96% respectively for Bin Gashir. These districts are located outside of the urban limits and are considered the urban peripheries where most city dwellers and

migrants from rural areas and towns reside. They chose those areas due to the lower housing prices compared to other areas closer to the center of the city. The majority of the population who moved to the city chose to live in such areas, where they established small communities of people with the same origins; most of them are located in the urban peripheries.



Source: GIS work by researcher

Figure 3.12 Population percentage change

Additionally, these districts contain huge camps of foreigners, where most of the laborers live in groups at cheaper places. Furthermore, one distinguishing feature is that some areas have been named by or with the dwellers' places of origins in the 1950s and 1960s, where those newcomers resided and lived for a quite long time, building a different "Haraat" (old city neighborhood) or larger camps before they changed them into permanent residential complexes.

This increase of urban dwellers entailed a huge expansion of urban areas, which was described by Abdulhafid Almoudi as "random expansion" which is known also as squatter settlements that represent the unplanned areas. In order to measure the growth and determine to what extent urban areas have expanded, remote sensing and GIS were used to produce maps and

charts focused, in addition to population data, on urban growth over time. This approach is intended to represent the reality of the urban expansion and its rapid rates as described by urban sprawl, which represents some negative aspects such as poor utilization of available resources and the disorganization of urban planning practices. The sprawl can be determined through its component elements including low density-development, segregated land uses, lack of significant centers, and poor street accessibility (Geyerm, 2009) which can be defined as uncontrolled expansion of urban areas.

3.5 Urban Change

This study utilized satellite images from Landsat conducted a classification showing the change in urban areas between 1988 and 2014. For land cover classification, only five classes were assigned: water, bare ground, vegetation, forest, and urban areas. Between the set dates of this study, urban areas grew largely toward the east and along the main transport routes of the city, while the new urban growth mainly occurred over green spaces including the limited forest areas, vegetation, and grasslands. Those lands were already suffering from both human and physical effects, especially the dominance of the desert, which makes up 90% of the total country area.

3.6 Methodology

This study involved the utilization of maps, satellite images as inputs and the production of GIS maps. The processing of the satellite images was done in ERDAS Imagine software. The output maps were produced using ArcMap, which produces different land cover based on the satellite images at different dates to illustrate the urban expansion of the city of Tripoli. The methodology adopted for this research is shown in detail in Figure 3.13.

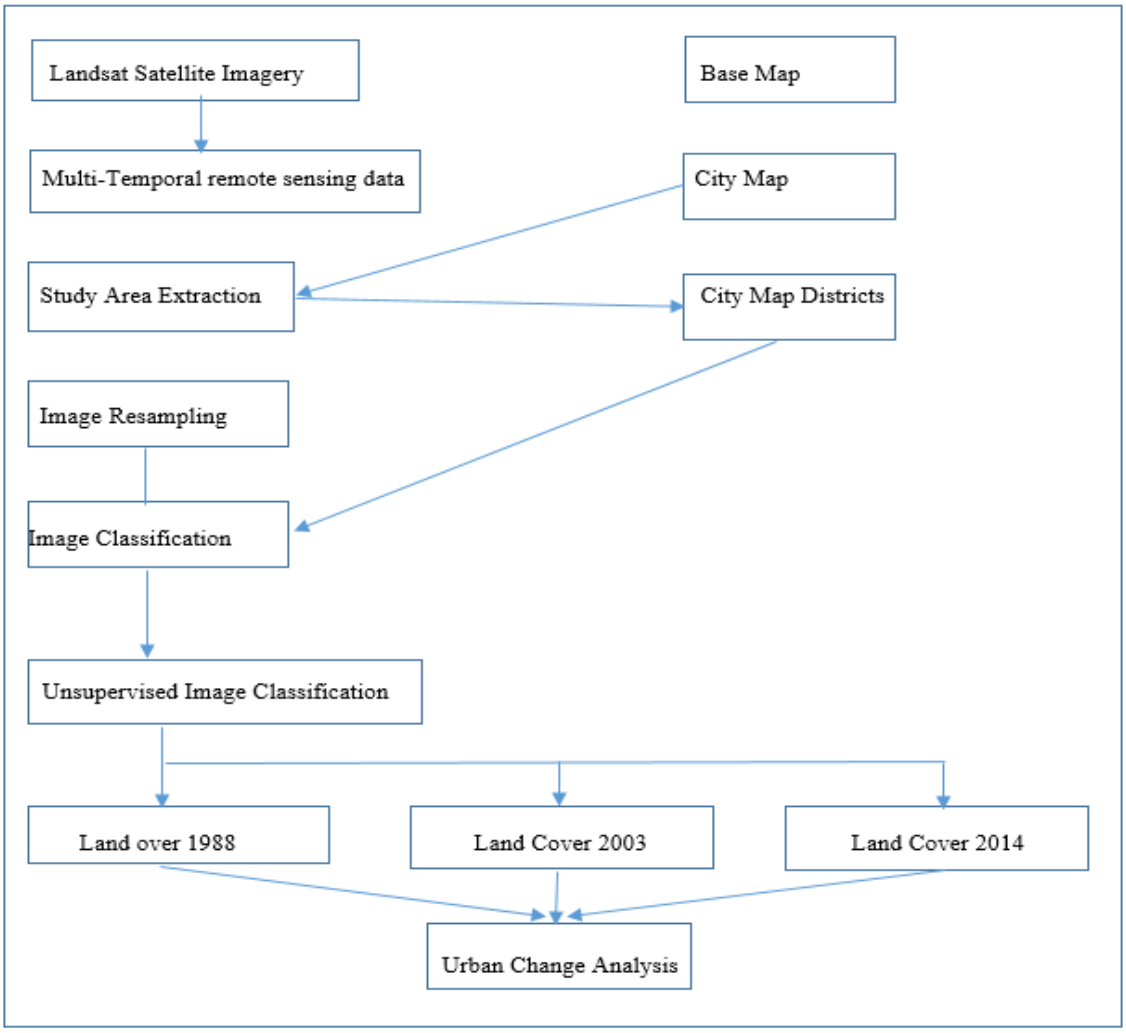


Figure 3.13 Urban Change Methodology

3.7 Data Collection

Landsat satellite images for 1976, 1988, 2003, and 2014 for the city of Tripoli were downloaded from USGS through the Earth Explorer Website. Due to the high cost of the high resolution satellite imagery such as Quickbird or ikonos, this research relied on Landsat imagery which was downloaded and processed without cost.

Table 3.4 Landsat Satellite Imagery Data

Image Date	Satellite – sensor	Reference System Path/Row
01/29/1976	Landsat-MSS	EMP-203/R37
01/06/1988	Landsat-TM	ETP-188/R37
01/31/2003	Landsat- L7 ETM+	ETP-188/R37
02/22/2014	Landsat-OLI –8	WRS-187/37

Additionally, for historical purposes some maps were added to the analysis, from 1764, 1938 and 1941. These latter two were maps prepared by the Italian Geographic Institute during the Italian occupation of Libya. The Army Map Service and U.S Army further revised the latter map in the 1940s. This group of maps was obtained from the map collection section of Anschutz Library at the University of Kansas.

Table 3.5 Map Collection

Map Title	Map Date
Tripoli	1764
Tripoli	1938
Tripolitania	1941

3.8 Image Processing

The satellite images were downloaded from the USGS website and layer stacked to obtain the images for the dates as listed in Table 3.4. The satellite images for different years were stacked based on the acquisition dates to be as close as to the same season of the year and dates as possible to minimize any effects of seasonal climate on vegetation in the images. This process

required the removal of the satellite imagery for 1976 due to the acquisition season, as the image was taken in summer, which reflects a tiem of high temperature and less vegetation cover, in addition the low resolution of the image (80 meter-Landsat MSS).

The images were clipped to the study area's boundaries, which required to match the image resolution of all satellite images, the 1988 image resampled to 2003 and 2014 images to the pixel size of 15m × 15m using the nearest neighbor method.

3.9 Image Classification

Image classification is essential to produce final maps that show change in assigned classes of the land cover and land use. The unsupervised classification method used the ISODATA clustering algorithm of ERDAS imagine. This type of classification allows the user to visually interpret the clusters with his own general knowledge of the study area, and assign them to land cover classes.

This study utilized satellite images from Landsat and produced a land cover classification showing the change in urban areas between 1988 and 2014, which represent the final land cover maps. The unsupervised classified images were reclassified using the spatial analyst tool in ArcMap where five classes were assigned (forest, vegetation, grassland, bare land, and urban) as they are the most represented types of land cover in order to finalize the classification and produce the final map.

3.10 Land Cover and Land Use Change

Humans make changes periodically and constantly to the places where they live based on their needs and aspirations. Urban areas are the most dynamic places that change dramatically due to rapid movements of residents and their activities. These activities are composed of different uses such as residential, commercial, industrial, and open spaces. Land use describes

how residents use the land, while land cover is considered the visible features of the earth's surface (Campbell, 2007, p.559).

Land use and land cover as a combined term (often abbreviated as LULC) is defined as the types of features found on land surfaces (Lillesand, Kiefer, 2000, p.208). The role of land use and land cover mapping assists in mapping the earth's surface and its patterns. Studies of LULC are important in urban and regional studies and in the study of planning policies. In order to get the best results with respect to the exploitation of natural and human resources and protect the environment, we can use LULC remote sensing analysis to follow the constant changes in the urban areas and margins. The purpose of land use and land cover study is to describe people's activities and effects on the environment visually. This classification illustrates the growth of urban areas relative to other land cover such as vegetation, grassland, forest, and bare land as they are the most dominant land cover types in the study area. Utilizing ArcMap and satellite imagery assisted in mapping the growth of the city as illustrated in figures 3.14 and 3.15.

The total area of the city was relatively small in the early 1700s, which was only inside the walls of the Old City with only .0.63 sq. km. Urban areas expanded significantly beyond the city limit, meaning outside the walls of the old city, during the Ottoman era and under the Italian occupation.

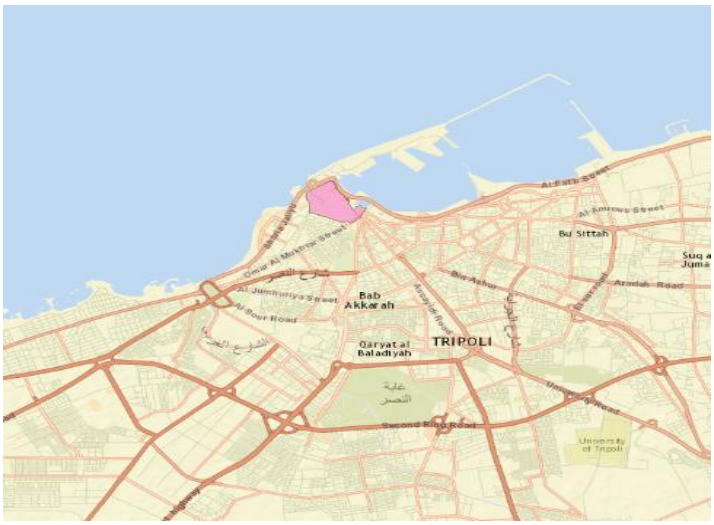


Figure 3.14 Tripoli (the pink area) in 1850

Figure 3.15 shows the extent of growth of Tripoli based upon the Italian urban planning system at that time, in which the city expanded extensively from 0.63 sq. km in 1850 to 8.30 sq. km in 1940.

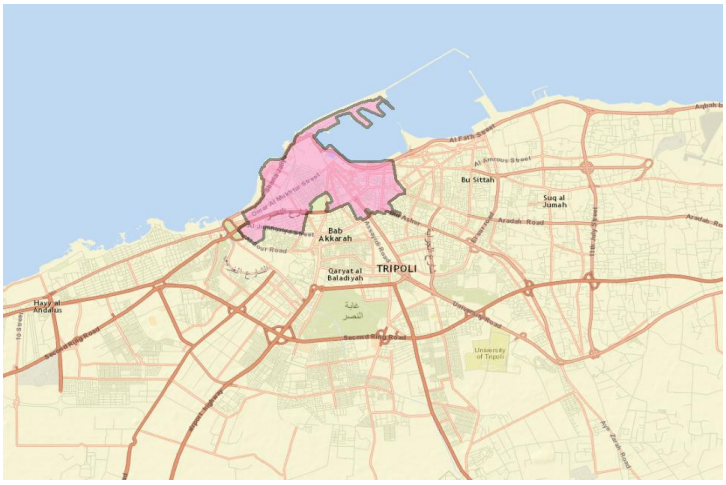
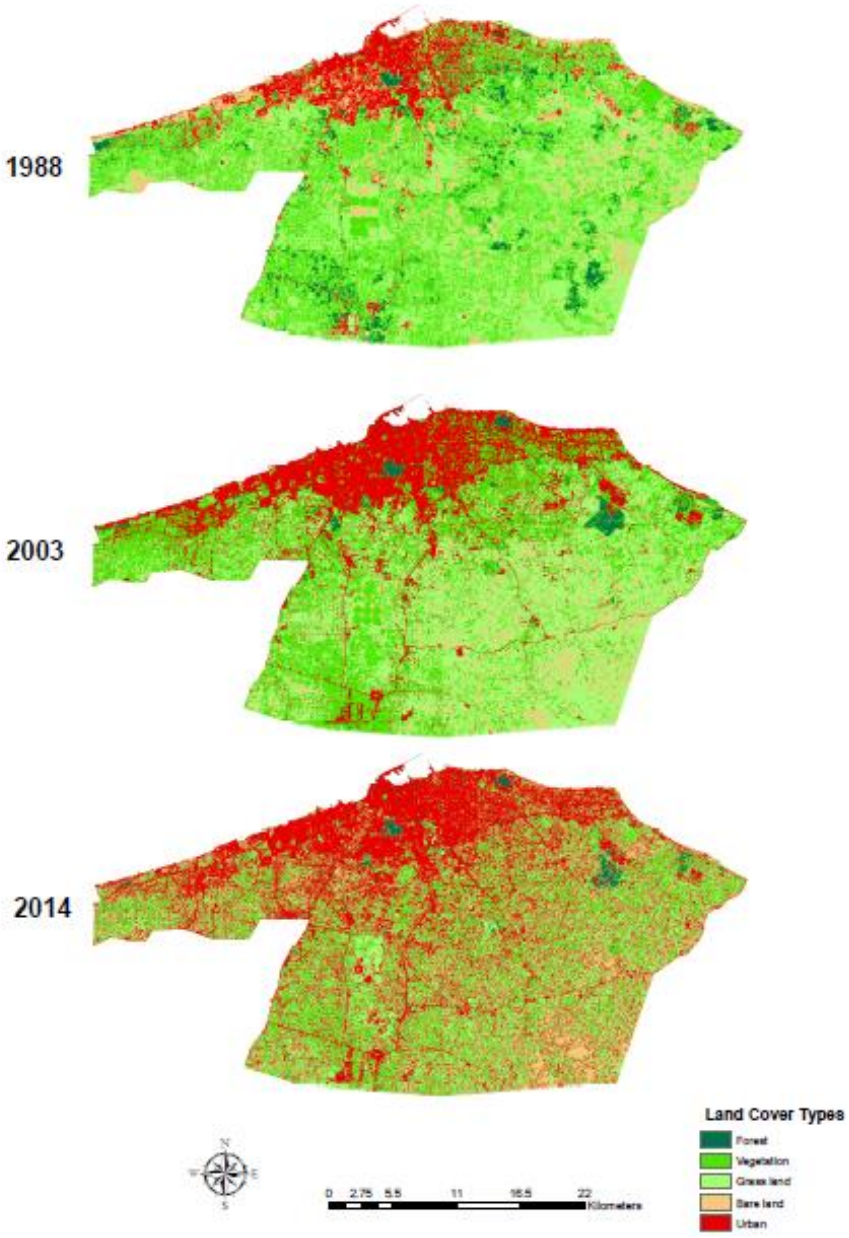


Figure 3.15 Tripoli in 1940

The planning policies during the Italian occupation established a solid base for the directions of growth, which continued to expand towards suburbs during the 1950s and 1960s.

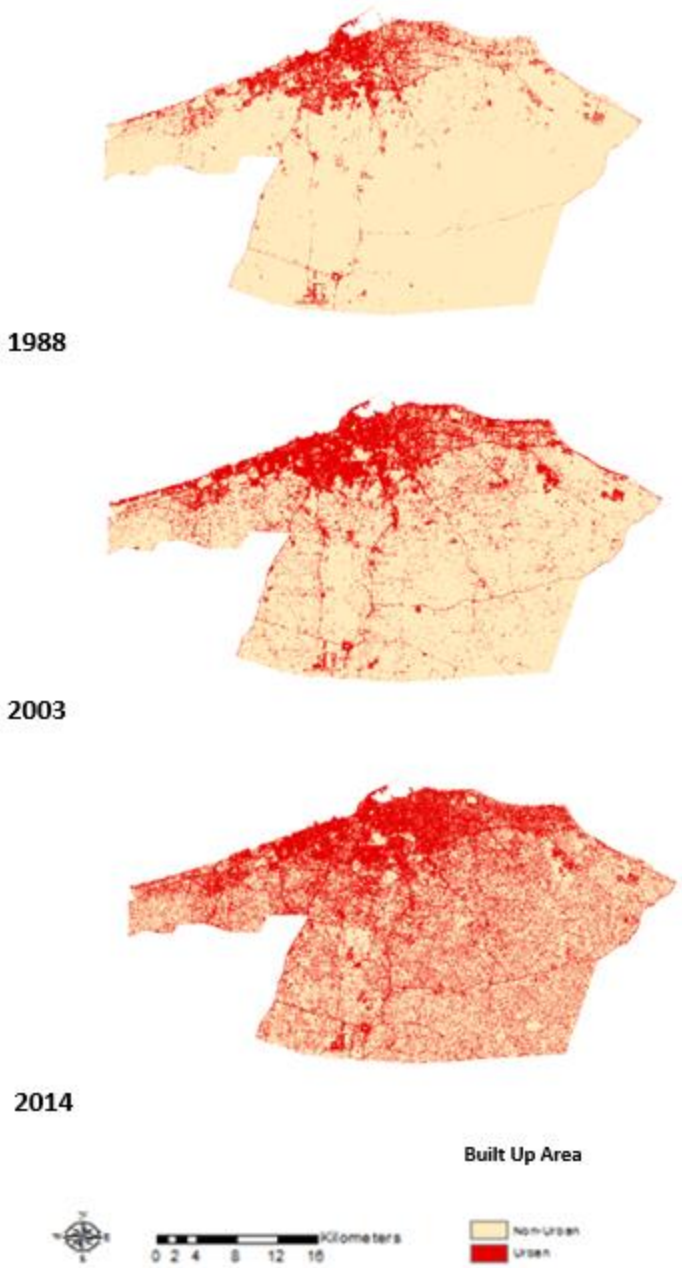


Source: GIS work by researcher

Figure 3.16 Land Cover Map

During 1970s and 1980s, the urban area grew largely toward the east and the west along the main transport routes of the city, while the new urban growth mainly occurred over green spaces including the limited forest areas, vegetation, and grasslands within city limits and urban peripheries. Figures 3.16 and 3.17 show the urban expansion relative to other land cover types

and as urban and non-urban land cover. Urban areas expanded greatly due to the accelerated urban population, as mentioned in the population growth section in the second chapter.



Source: GIS work by researcher

Figure 3.17 Urban and Non-Urban areas 1988, 2003, 2014

3.11 Change detection analysis

There is a strong agreement between the population distribution in the suburbs, where most growth occurred and the urban expansion as shown in the figures 3.16 and 3.17. The expansion outside the city limits and toward the southern areas of the city confirmed that relationship.

The urban change analysis of this chapter were extracted from the attribute tables of the ArcMap final maps. It shows the quantitative difference between the three assigned classified images of the same scenes of the study area. As shown on the land cover change figures (3.18, 3.19, and 3.20), the built-up area and the green areas have changed remarkably between 1988 and 2014.

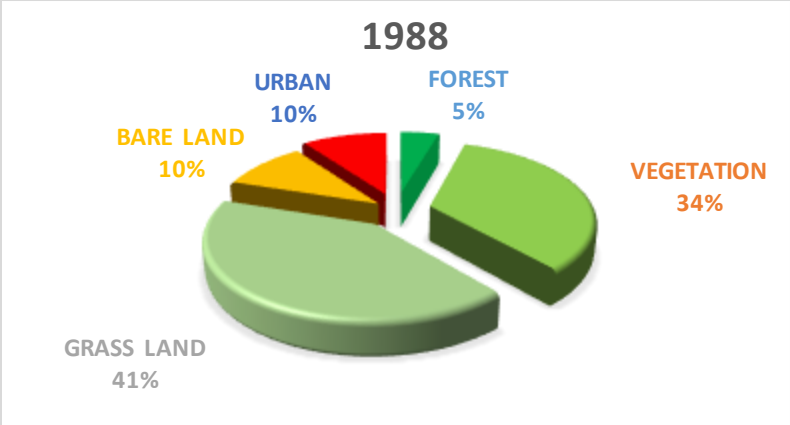


Figure 3.18 Land Cover 1988

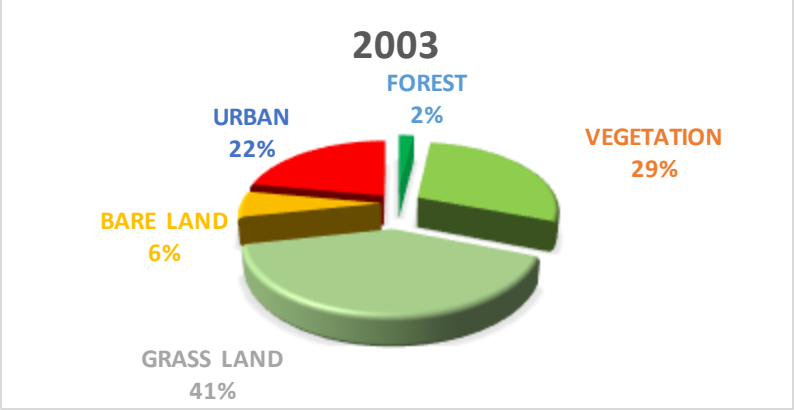
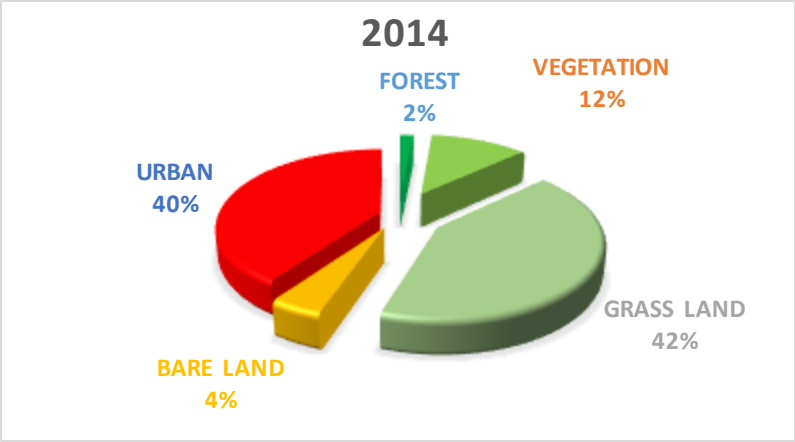


Figure 3.19 Land Cover 2003



Source: GIS work by researcher

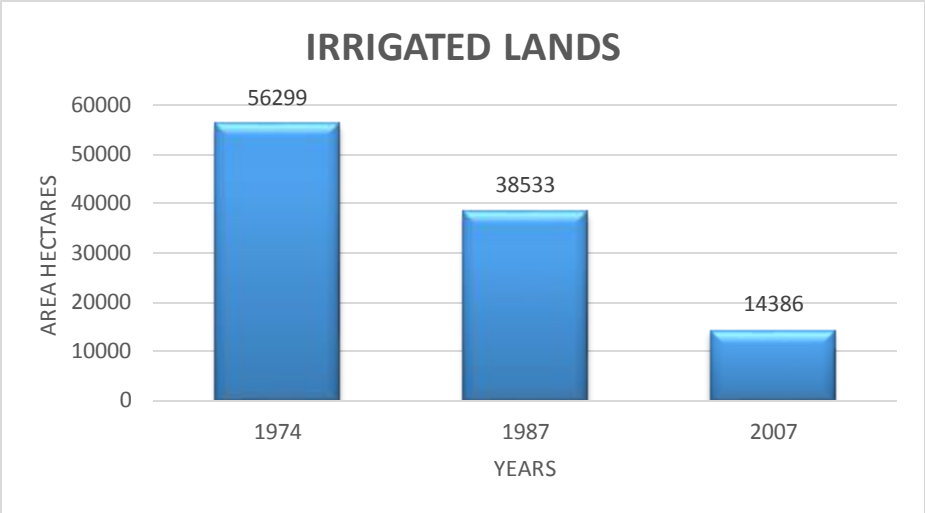
Figure 3.20 Land Cover 2014

Built-up areas increased from 10% in 1988 to 22% in 2003 and to 40% of the total city area in 2014. This huge increase in built-up areas (the urban category) is due to the concentration of the services in the city and the infrastructure development and the urban fringe expansion, where most of the migrants from other cities and the inter-regional migrants have resided. This expansion has led to massive construction as new residents look for cheaper land prices where they can build houses and for those who are looking for cheaper rentals as well.

In contrast, there has been a noticeable decrease in the forest from 5% in 1988 to 2% in 2014, which is only represented now in certain protected areas that have been utilized by the government including national parks of Tripoli in addition to some protected security sites. Furthermore, there has been a large decrease in vegetation, (overall including agriculture and other vegetation), which includes also the limited agricultural land cover due to the difficulties to distinguish between the two land cover types. This land cover decreased from 34% in 1988 to 29% in 2003 and continued to decrease to only 12% in 2014. The change apparently occurred due to the massive expansion of the built-up areas and the conversion from agriculture to grassland prior to converting it to urban land use. Businesses and individuals have continuously used this mechanism, which has led to a remarkable increase in land prices. This has affected the

concentration of urban dwellers residing in the peripheries. The visual representation of Tripoli's urbanization in the images above is dramatic. Figure 3.17 uses red color to represent urbanized areas, while the land uses or land cover showing in light brown are non-urban. The steady spread of the red areas is obvious in the maps. However, the actual physical transformation on the ground is, if anything, more staggering, particularly given the previous land uses of many of the areas now in red (i.e. urbanized). The three agricultural censuses that I consulted in this dissertation (from 1974, 1987, and 2007) documented the economic and ecological consequences. The censuses showed that the landowners who practice agriculture as a full-time occupation in 2007, for one instance, consist of 23.3%, whereas the majority of landowners (77.7%) work only part-time or work at different jobs besides farming. There was an increase by 23% in the number landowners (part-time owners who practice agriculture in addition to their full-time jobs in cities) from 19724 in 1974 to 24,382 in 1987 (4,658). In contrast, the agricultural census showed that there was a decline in the number of full-time farmers, where the number has decreased from 59,566 in 2001 to 38,129 in 2007. This decrease in the farmers occurred because of the significant shift in farmers' number towards services and commerce, high agricultural equipment costs, and water scarcity.

There has been a decrease in the irrigated lands from 56,299 hectares in 1974 to 38,533 hectares in 1987 and a continued decline to 14,386 hectares in 2007 (Figure 3.21). Due to the decrease in arable lands, the average land parcel size in greater Tripoli has decreased to 6.6 hectares compared to 8.1 hectares outside it.



Source: Agricultural Census 1974, 1987, 2007

Figure 3.21 Irrigated Lands change

Tripoli is the fastest growing urban center in Libya, which has been affected significantly by the colonial establishment of urban planning and development. The maps show that the urban areas have expanded largely along the transportation routes toward the east, west and south on the suburbs and peripheries. The population growth over the districts of Tajura, Janzur, and Ain Zara confirmed the urban expansion as shown on the land cover maps. However, urban planners described this huge change as "random expansion." The Urban Planning Authority has faced difficulties tackling the growth in the urban areas and its response to the rapid growth has been always slow and inadequate.

This chapter highlighted the significance of remote sensing and GIS analysis in population, urban growth, and land cover classification. The classified maps were prepared by unsupervised classification with five land cover classes. Change detection analysis showed that built-up areas have increased significantly from 10% in 1988 to 40% in 2014, while green areas including agriculture and vegetation have decreased from 34% in 1988 to only 12% in 2014. This increase in urban areas is a threat to the limited agriculture and green spaces with an

increased demand on land for housing and commercial land uses. This unplanned and random expansion has been of particular concern to the urban planning authority. However, the response to urban sprawl and the action of UPA has never been effective despite the fact that a new UPA internal management has been established to tackle this issue. The role of the urban planning authority, the laws and regulations, and the effective factors over the urban planning system will be explained in details in the next chapter.

Chapter 4: Urban Planning Policy

Since the era when the Romans ruled Libya, urban planning for this area has gone through many different stages and management structures. The Libyan urban planning system has been influenced by colonial and foreign administrations since 1835, the year when the Ottomans established the official urban planning municipal authorities in Tripoli. The "Wali" who holds the "Mayor" position in our present-day system managed those municipal authorities. Under colonialism, the urban planning system was concentrated on limited plans for expansion and infrastructure. Ottoman establishments centered on services such as water and communication within urban areas. Another aspect of the Ottoman system was growth management beyond the outer wall of the old city of Tripoli in 1881 (Amora, 1998). This was the point where the city expansion developed along the main streets, which witnessed the construction of two-story buildings on both sides of the streets. In addition, services developed that were important for the city's development, such as those provided by the central hospital, art school, and traditional crafts. Indeed, the Ottomans established the urban planning system, which included the management of growth by issuing licenses and enforcing the regulations of the municipal administration.

The subsequent Italian administration created most of Tripoli's base maps a few years after its colonization of Libya in 1911. This preparation included surveying and mapping the streets and land use as well as the design of high-rise buildings within Tripoli's center. The purpose of the city plans was to simulate Rome's design and architecture in Tripoli's design and planning (Misallati, 1981). The city plan clearly distinguished residential from governmental and official uses, commercial and traditional industries, and open spaces; it also demarcated two main squares within the city center. This concentric zone model plan organized and developed

the growth of the city from the main square to the wall that surrounded the city. The Italians demolished the wall later on in order to provide more space for development. Furthermore, the plan divided the buildings based upon the hierarchy of the buildings' height from high to ground level. Those buildings rose from five to seven floors on the main streets and secondary level buildings rose two floors; the plan concluded with open and wide houses inside residential areas.

In terms of surveying and mapping, Italian army engineers produced the first city maps for Tripoli as an official certified city plan in 1936, which was composed of three different schemes in the urban area. In addition, Italians issued the Urban Legislation Act that was based upon the city plan of 1936 including planning standards for buildings (heights, shape, design, and backyards) and permitted land uses within the city limits. It was crucial for the Italian administration to manage and control the central area where most of the historical Roman sites were located in order to link Roman history in Libya with Rome. By this act, any construction or development had to be permitted prior to establishing new projects in order to preserve the archeological remains due to their values to the mother country in Rome.

The Italian role in urban Tripoli remained after Italy's official collapse in Libyan lands in 1943; it was later replaced by a British mandate in Tripoli and Cyrenaica and a French mandate in Fezzan, the southern area in Libya. Those military administrations lasted for ten years and were dependent upon the Egyptian and British administrations in Cyrenaica, French administration in Fezzan, and Italian administration in Tripoli due to the lack of educated citizens who were capable of working on urban planning administration.

4.1 Urban Planning Establishment

Libya gained its independence in 1951, which was the date when the king called on Libyans in other countries to return to their origins, cities, and towns, from the places where they

had moved after they escaped or migrated during the Italian colonization. Libyans subsequently returned and replaced Italians in the most developed areas of the country. Italians developed lands by forcing citizens to work in their farms and houses as they occupied coastal areas two decades. The irony was that those citizens left the lands as workers and returned as owners.

Independence provided a foundation for establishing a Libyan urban planning system. Population growth and the return of the migrants were the main factors in urban growth, despite the fact that most of the plans were extensions of Ottoman and Italian urban planning. The important initiative to establish an urban planning system in the monarchy era stemmed from the new urban and town plans in the 1960s. The 1960s plan covered wide areas of new city and town plans in marginal areas after planning, and development was limited to large city centers.

As cities and towns expanded due to oil revenues, the need for city planning became the principal objective for the administration and its decision making process. It was crucial to manage the existing and new urban growth and to deal with urban issues such as insufficient services or the aftermath of an earthquake in the city of Marj in 1963. Despite new planning initiatives, many plans lacked professionalism and comprehensiveness because of the concentration on partial plans instead of the preparation of complete and compatible urban systems. In addition, regional differences in planning standards affected the national planning system until the government issued the unified municipal law in 1967 that transferred the power from city councils to municipalities in terms of constructions and planning, which was an advanced step in the establishment of the Libyan planning system.

4.2 Urban Planning and Development

The development stages and the foundation of planning in the plan of 1963/1969 was announced with one transitional year for infrastructure. However, training projects for Libyan

planners faltered due to the lack of sustainability of urban development. In 1966, the Ministry of Planning and Development contracted two consultant firms: Doxiades for the Benghazi region and Witting for the Fezzan region and Tripoli. Those contracts included the preparation of new plans and the development of the existing city plans from 1968 to 1988. The contracts concentrated on two plans; the comprehensive plans (these are the detailed master plans for expected major urban centers) and the general plans for local services centers.

In addition, in 1964, Doxiades conducted another study on housing projects for the housing and transportation ministries as part of the national comprehensive project established by the monarchy to overcome housing shortages. Furthermore, the ministry of planning and development established the department of urban planning consultancy office to manage the urban growth and the office of surveying, which recently developed, in 1987, into the surveying authority.

In 1969, the government announced the new ministry of municipals. One of its purposes was to prepare the first comprehensive urban planning law in collaboration with the ministry of planning and development and the housing ministry (Amora, 1998, p.320), which officially issued the 1969 law No. 5 of Urban and Town Planning. This law was comprised of the following foundations that organize the role and duties of urban planning authority:

- The acknowledgment of urban planning
- Stages of planning and certification
- Legal foundations and laws and acts, which included roads, land divisions, land use and classification, buildings, and squatters
- The responsible and involved parties
- Transitional stages and punishments

4.3 Urban and Regional Planning Strategies

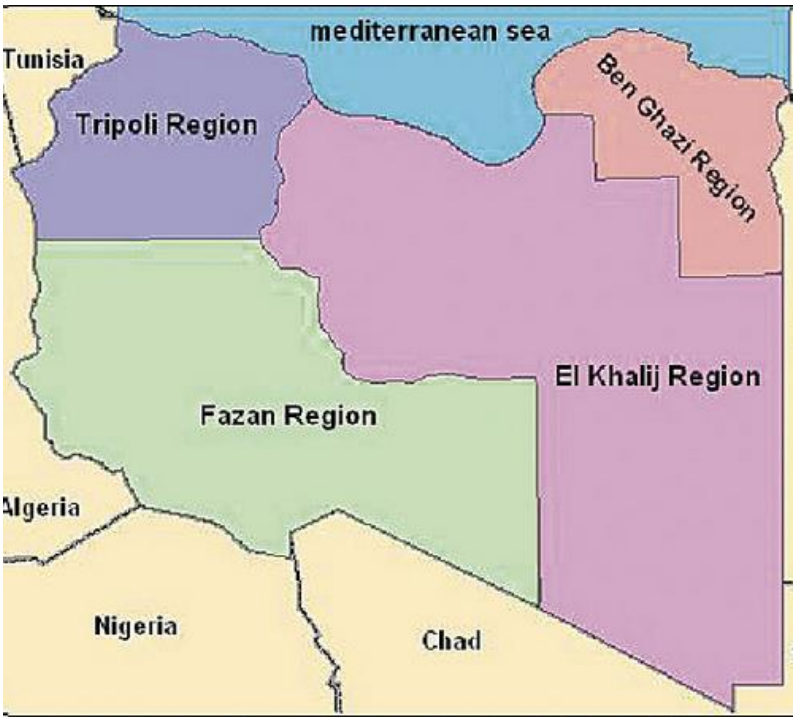
Libya has had three main planning schemes during the last four decades. The planning system consists of strategies were designed and prepared according to the geographical and economical national and regional divisions of the country. Figure 4.1 shows the regional planning divisions, which have been the cornerstone of the Libyan planning system since 1960s and have not been changed at the national level. In contrast, the regional and local planning divisions have never been stable; accordingly, the authority and the powers vested by the highest authorities have changed and have made a major negative impact on cities and towns' land use, structures, and landscape (National Spatial Planning Policy, 2006). The planning authorities divided the country into four planning regions, assigning consultants as follows:

1. The Tripoli Region – National Consulting Bureau.
2. The Benghazi Region – Emara Engineering Consultants.
3. The El-Khalij Region – Engineering Research and Consultation Bureau.
4. The Fezzan Region – Engineering Consulting Office for Utilities

The planning process in Libya includes the preparation of development plans for all physical planning levels in the short and long-term, as well as at the urban planning level, which entails the preparation of master and layout plans for cities, and towns (Azlitni, 2005. p.1).

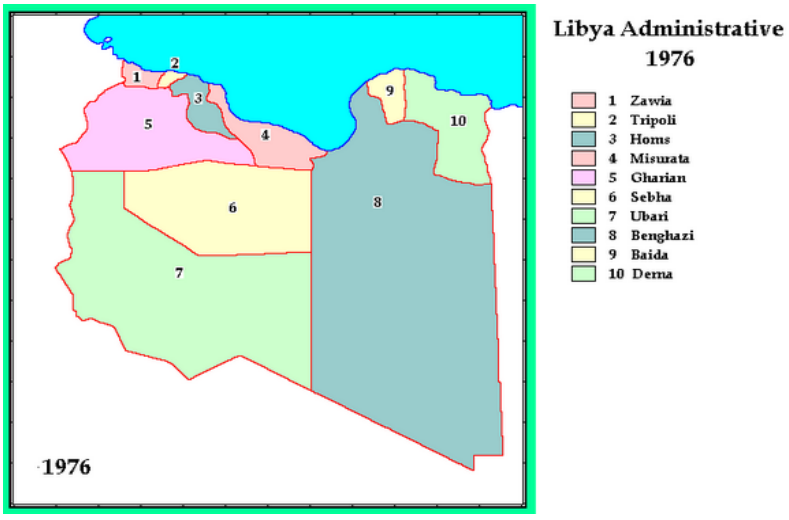
It is worthwhile to mention that the regional administrative divisions have changed continuously, causing a loss of confidence in the decision-making and increasing the non-acceptance of the documented information and statistics over difference periods of planning history. These spatial boundaries are the foundation of planning and sustainable development towards success of the planning at all levels. Figure 4.2 shows the map of national administrative division in 1970 with only 10 provinces while Figure 4.3 shows the increase of

provinces during 1970s and 1980s to 24 provinces; these boundaries have changed again in the 1990s and 2000s, with Libya now having 33 provinces.



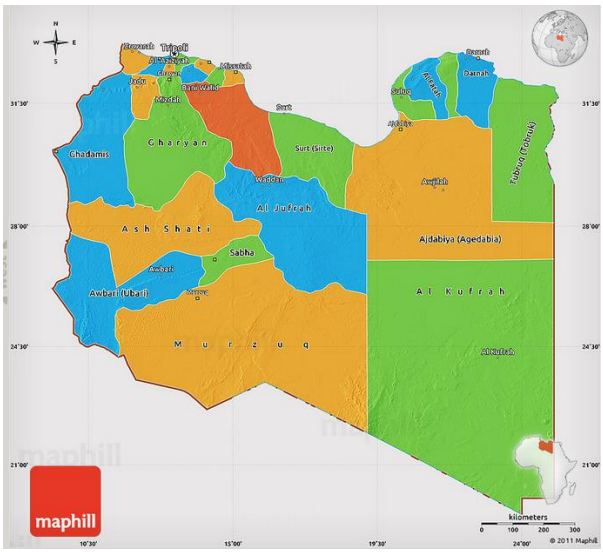
Source: www.esri.com

Figure 4.1 Planning Regions 2005



Source: www.google.com

Figure 4.2 Libyan Provinces (Baladiat) 1976



Source: Maphill.com http://www.maphill.com/libya/simple-maps/political-shades-map/

Figure 4.3 Libyan Provinces (Baladiat) 1984

The first planning phase, the first generation, was intended to cover the period 1968-1988. Additional master and layout plans for more cities and towns were prepared. The first generation plans are associated with the country's first economic plan shortly after the discovery of oil (National Spatial Planning Policy, 2006, pp.242-243). The early termination of this planning program was due to the dramatic economic and social changes that took place during the late 1970s, when oil revenues were directed to build infrastructure, develop the economy, and strengthen the social structure. The main aspect of this generation of planning was localized to each city and town based on their economic conditions, which means there were not comprehensive plans; rather, planning was isolated and lacked integration at regional and national levels.

The planning authorities concentrated on concluding the re-evaluation of the existing plans for future preparation of the second planning generation according to the economic and spatial planning conditions. This was done in light of the increase of resources revenues and the national

social transformation that required revising the plans in order to meet the new demands in infrastructure and services.

The second generation of planning was prepared in order to address the lack of national integration and to build solid plans. The plan's design was based on a sequential planning system to connect town and regional plans to the national planning system. Since the first generation plans lacked a comprehensive vision, the second generation plan aimed to fill the gaps of the first generation plan and to eliminate its deficiencies, as well as cover wider areas and deal with innovations and rapid changes that characterized urban development. This generation was a result of the re-evaluation process, which was a new planning phase that elaborated the following plans:

1. The National Physical perspective plan, 1980 – 2000
2. Provision of regional development plans.
3. Sub-regional plans covered all administrative areas.
4. Preparation of (244) two hundred and forty four urban plans consisting of Master plans and Layouts and plans for significant settlements.

Despite criticism of the second generation plan, it was partly successful in producing detailed maps for towns and cities as the base for future urban planning projects. However, the second generation plan faced major criticism because it did not overcome the first generation plan's problems. The second generation plan did not fill the huge gap between the objectives and the reality on the ground where the urban development plan had not been revised in order to keep pace with the rapid population and economic growth. A difference exists between successful plans that are dependent on basic principles in the planning system that are not complicated when compared to other expensive, colorful plans that are disconnected from the reality of the situation.

In this regard, Helmi et al. (2006) mentioned that the two main weaknesses of the second generation plan are the development and the implementation. He clearly stated that this generation is "static" because it lacks flexibility and does not keep up with the rapid changes in socio-economics and demographics. In addition, due to the planning tradition, master plans are a product of planners and engineering exercises and backgrounds in which the linkage between planning and the main actors of the growth, the investors and the population, has not been stronger. This comprehensive approach requires a framework that combines the policy and decision making professionals and continues connection with the public.

The first two generations of planning exposed deficiencies, especially during the late 1970s and 1980s, due to economic development and population increase in urban areas. This weakened the authoritative capabilities and caused a gap between the plan and the reality on the ground. At the completion of this planning period, which ended in 2000, special attention was given to the significance of preparing new development plans for the whole country, which is called the third planning phase of the planning project; it is set for the years 2000-2025. In order to manage national development of urban and town planning, the Urban Planning Authority (UPA) collaborated with the Ministry of Planning to prepare the third generation plans; particular concerns that it needed to address were shortage of lands for housing, expansion of other uses over arable and agricultural lands, and the appearance of wide unplanned areas in urban peripheries. In order to strengthen the role of the UPA, the UPA and planning ministry issued the third generation plan according to the regional geographic division mentioned above.

The new generation project aims to manage all planning scales, at both regional and sub-regional levels. In addition, the project covers the temporal scale of 2000-2025, centering substantial studies on social and natural resources (National Spatial Planning Policy, 2006).

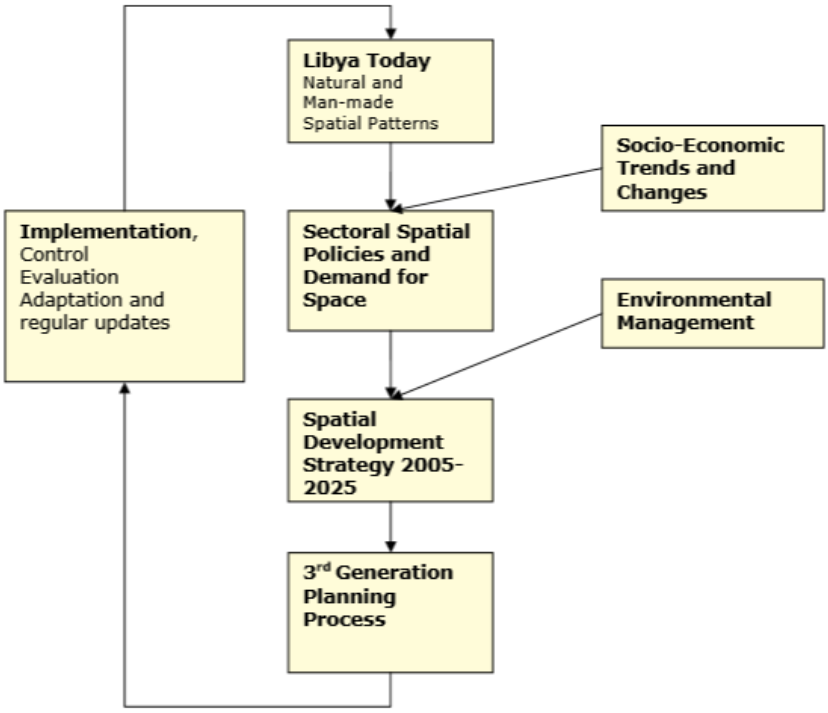
The third generation plan projected the year of 2000 as its commencement date, although actual implementation design began in 2005; therefore, it was revised to cover the period 2005-2025. According to its scope, the planning task comprises the preparation of the regional and sub-regional plans along with the preparation and updating of plans for cities, villages, and settlements. The third generation of planning attempts to overcome the unexpected and inconsistent changes in urban areas, to provide an explanation of future planning, and to make the planning system more accessible, particularly at the national level. In addition, it intends to adopt different development and planning scenarios that assist in coordinating the target year of planning with national spatial and economic policies. More importantly, it seeks to provide a framework and guidelines for urban planning and population distribution policies and to build a database for planning systems at the national level.

The third generation plan also intends to fill most of the gaps that occurred in the second plan. That is, it will concentrate on the development of the influential variables beginning with the economic changes, especially the national resources of oil and gas, which are the largest economic income sources. This assists and drives population movements within the country. The second variable is an interactive planning approach that takes into account the economic, cultural, and political influences and effects. It is the connection between people and the planning instruments, as stated by Friedman (1973), where the planning is the linkage between thinking and action; eventually these provide benefits to society and produce an organized land use focusing on advanced land management in urban areas.

In order to provide detailed and accurate information and produce precise maps to the decision-making professionals at the planning authorities and institutions successfully, the third generation plan proposed a technical and training program to assist in completing and producing

the final publication of the plan in collaboration with the United Nations HABITAT Office in Tripoli. The technical development intended to produce detailed maps was extracted from satellite imagery at regional and sub-regional scales.

As shown in Figure 4.4, the process of the spatial planning plan has expanded to cover components that the second generation plan did not. In addition to the natural and physical planning and the spatial policies, the environmental management component was added to the spatial development strategy (Third Generation Plan).



Source: Third Generation Plan, Tripoli region

Figure 4.4 Spatial Planning Process

The technology component of the third generation consists of three different stages: providing computers and machines, building databases, and conducting training programs. In this regard, Abdulhafid Almoudi, (Phone interview, October 15, 2014) said that despite the fact that

UPA has provided its staff with training and support, the results have been modest and unsatisfactory due to the bureaucratic processes, inconsistency of funds for the programs, as well as a shortage of staff professionalism.

4.4 Urban Planning Authority (UPA)

The central government controls and manages the planning system through the planning ministry, whereas the UPA is the central authority that manages urban affairs through its regional, sub-regional, and local branches. The role of the UPA is to implement planning policy in terms of preparing plans and coordination with national and regional authorities to achieve the highest level of public services efficiency (Almoudi, 2014). Additionally, the authority has several missions:

- Preparing a natural long-term national plan and regional and local plans by the municipalities and authorities according to national legislation.
- Preparing urban plans at various levels and monitoring their implementation
- Reviewing plans and land division projects that are prepared by the local authorities for approval at the UPA.
- Highlighting Libya's national identity through preserving the architectural heritage in cooperation with the competent centers and authorities.
- Developing rural and marginal areas in order to alleviate the gap with urban centers in terms of public services.

The main mission of UPA is to prepare and manage the development plans for the various planning levels: the national physical long-term plan, regional planning, sub-regional planning, and urban planning which entails the preparation of master plans and the layout for cities and towns (Azlitni, 2005, pp.2-3). In terms of the administrative structure, the authority is

one of the top legislative and executive authorities in the country; its administrative hierarchy starts at the local offices that prepare the local needs including monitoring, accepting, and validating applications and permissions for the regional authorities for verification and validation to its top, which is the UPA (see Figure 4.5).

The structure of the Urban Planning Authority was built based upon certain objectives and functions according to a set of planning laws and regulations in order to manage urban affairs at national, regional, and local levels.

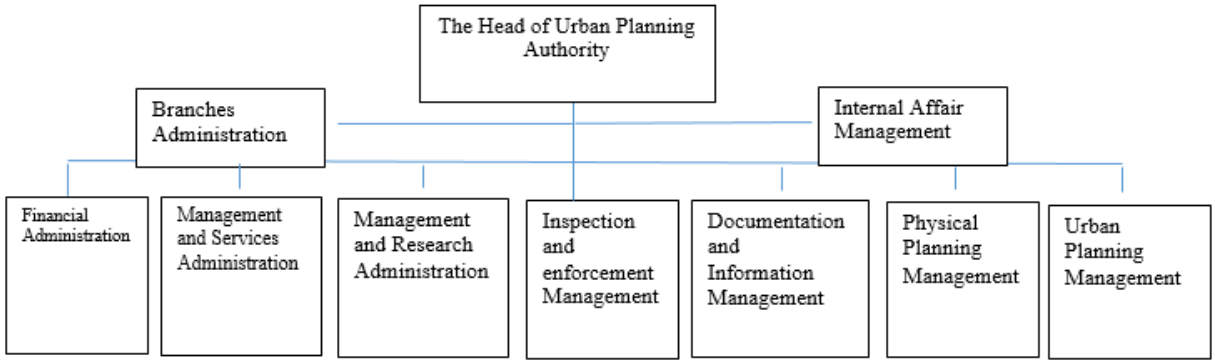


Figure 4.5 UPA

The structure of the UPA was created to handle certain objectives and functions according to a set of planning laws and regulations in order to manage urban affairs at national, regional, and local levels. It has changed over the last three decades based on changes in the political system, which was inconsistent at all levels but the leadership. During the 1980s, the Authority was under the prime minister's office; then the Authority changed its administrative subordination to the Planning Ministry in the 1990s, which affected its function and role in terms of planning and enforcement (Mohammed Alamin, head of information and archive department, interview UPA, 07-20- 2012). The inconsistency has affected the authority not only externally but also internally. There have been constant changes in its structure depending on which ministry the authority works

under as well as the financial policy. Centralizing the financial structure has been a big concern for the administration, generally, and for the planning institutions, in particular.

Since its establishment in 1993, the UPA was and is still under the General Libyan Executive Authority and has numerous bodies or authorities that oversee its functions (Almoudi, 2014). In September 2005, the General People's Committee established the General Authority for Infrastructure and Urban Development as a general authority to manage the national planning projects. However, one year later, in March 2006, the General People's Committee cancelled the new authority and issued a different decision to create the Housing Projects and Facilities Authority. In both cases, the functions and duties of UPA has been overseen by each authority.

Due to these changes, competencies have overlapped within its departments and administrations. There have been constant replacements of the general head and administrations' directors as well as departments' directors. These changes have affected the Authority and its credibility as it has moved toward different paths and unusual hierarchies within the governmental structure. It has driven the urban planning system towards unclear policies under the political influence. Vandewalle (1998, p.142) stated that planning policy and the institutions became "arenas for personal advancements" since 1969; the political system extended the state institutions and became bureaucratic environments for the centralization of power among the Qaddafi regime's elites.

Those political influences over planning policies were unwise and lacked long-term vision because of the inherent limitations of a small group that made decisions based upon special connections with the government and political loyalty. This mechanism of distributing power made the political, economic, and administrative processes ambiguous, especially as oil revenues increased and the need for accountability in administration became a priority for

planning and development. Consequently, those policies strengthened the centralization of institutions and weakened its supervision over regional and sub-regional authorities despite the direct administrative hierarchy of the central system.

In addition, UPA also controls the growth of urban areas by enforcing the laws and regulations of urban and town planning for arable lands, especially in a country like Libya, where arable lands must be preserved and protected for agriculture and open spaces. These laws and regulations must be under the control of the Authority through its regional and local branches and offices based on the geographical and technical system. The authority controls a national network to manage the growth on the ground. This mechanism has two levels, the regional and national, in addition to the local planning, which mostly begins with single residential units and spreads over land uses.

In order to apply for a license to build a residential, commercial, or industrial unit, applicants must supply various supporting documents for both local and regional authorities; following this, regional authorities submit the requests through the postal system to the UPA. In the late 1990s and early 2000s, the central government initiated a decentralization policy, which mandated that local and regional authorities implement development plans. Urban land registration processes require certain administrative authorizations from local, regional, and central urban planning authorities. For instance, to obtain approval to build a house, residents are required to submit the following: (i) ownership certificate, (ii) outside urban limit certification, (iii) location verification, and (iv) a certified report indicating local assessments that verify all the above-listed documents. This process, enforced by the agricultural land protections acts, aims at protecting the agricultural land zones from being converted into urban use (Law No.15, 1992). This law defines the agricultural land (farm or agricultural-designated areas) as 5 hectares with only one residential

unit to minimize the spread of urban sprawl over agricultural lands. In order to protect arable lands, agriculture and planning ministries provide aid for farmers who maintain the requirements according to agricultural protections laws and urban planning acts. However, allowing the local planning administration to issue an authorization for residential units, which is a process of the decentralization policy, has caused a huge loss of arable lands and unplanned areas surrounding urban limits. Local offices and most of the regional authorities abuse the laws by defining the agricultural unit from 5 hectares to 1000 meters, and at some points, 500 meters, which has resulted in unplanned sprawl across agricultural lands (Agricultural Land Protection Authority, Law No.5, 1990). Furthermore, the loss of arable lands in peri-urban areas is due to unauthorized conversion through private notarial acts and, in most cases, without a registration procedure title. This caused a parallel registration system with many transactions (State of African Cities, 2006. p.4), and gradually has led to higher land prices, especially in peri-urban areas due to housing demands.

Tripoli has expanded greatly as the growth engine of Libya's cities, which have overtaken most of the country's arable lands; the rapid rates of urbanization stress natural resources and affect the surrounding environments. Most of the changes occur across agricultural lands and affect the water supply and green areas, thus causing severe desertification. Tripoli's region is considerably overpopulated with limited resources. The region is a semi-arid zone, which has a limited rainfall and is affected by periodic droughts, as well as erratic vegetation and soils. Seasonal supply water through the valleys from the western mountains is the only source to replenish ground water for agriculture and human consumption in the large coastal cities' network. In the early 1980s, the agriculture ministry announced a new project that would build dams on the large water supply valleys that flow towards the city and the coast. The dams have cut the seasonal water supplies for more than three decades causing additional pressure on the

ground water as the demand increases and the water supplies compensation decreases. The government indicated that the establishment of the dams on the major valleys was to protect the city of Tripoli from the flooding that occurred through 1970s and early 1980s. Unfortunately, this policy resulted in a rapid decline of the underground water, as the population and agricultural consumption of water and in the Jeffara plain where the majority of population reside have increased.

Despite the fact that there are several laws and acts legislated in order to protect the ecological system, the planning authorities are unable to achieve their objectives of protecting the environment. Politics, governmental intervention, and corruption have led to the development of huge sprawl over agricultural lands. This has weakened the planning institutions by establishing a parallel land market and registration system outside of the official system (The State of African Cities, 2010). Furthermore, based on interviews conducted, the administrative staff, in cooperation with developers and beneficiaries, has abused the laws and regulations, which in turn have driven the decentralization policy in the opposite direction from the planning objectives.

A comprehensive sustainable development plan that considers the economic, social, and environmental conditions should be the main objective of the government in both the short and long term. A need exists for an urgent national policy that considers the local conditions and balances local, regional, and national needs in order to mitigate the differences between rural and urban areas. This policy should take into account protecting agricultural lands to reduce the deficit in food production in such ways that also preserve the environment. Finally, there is a strong need for establishing technical centers where skilled staff could contribute to initiatives for comprehensive policies, which in turn could be enforced through legislation and laws designed to implement and achieve the planning objectives.

4.5 Legislation and principles

As cities expand, needs and activities increase in order to fulfill the daily demand of urban dwellers. The daily life needs in urban areas and environments are complex because they encompass a vast field for many social, economic, and political activities that take place in the city. This complexity is challenging due to the conflicts of a variety of interests. Urban law, including a set of laws, regulations, and a decision-making process, is necessary to manage the growth, services, and development. The United Nations Habitat focuses on the emphasis of the laws and regulations that include the following: planning for densification and extension of the city, management of land, and urban development financing innovation.

Libyan authorities issue and develop laws and regulations in efforts to manage the growth in urban areas, implement the planning goals, and protect the environment. These legislations including the following seen in Table 4.1:

Table 4.1 Urban Laws and Regulations

Law and Legislation	**Issuance**	**Objective**
Law 3	2001	Urban Planning
Law 3	2001	Urban regulations
Law 5	1992	Protecting Agricultural Lands
Law 7	1982	Environmental Protection
Law 15	1984	Protecting Species because of urban expansion

Law 5	1982	Pasture and forest protection

Source: Urban Planning Authority
Saad et al, 2011

The Urban Planning Authority issued Law No. 3 of urban planning in 2001 to replace urban planning law No. 5 of 1969. One year later the Regulations of Urban Planning Law was issued to explain in detail the role of the Urban Planning Authority and processes of certifications and land registration attempting to control the growth in urban areas and to protect the agricultural lands. The law defines the planning processes at various levels. The national plan consists of a series of studies and research goals at the state level. It determines the possibility of growth, trends, and assumptions for a certain period, while the regional plan consists of a series of social and economic research and set of maps that include natural, economic, and geographical elements aimed at determining growth assumptions within the outline in a specified period at the regional level. The local level was based upon land use as a part of the regional level plans. Site planning has as its highest plan objective the goal of resettling population and providing services at regional and sub-regional levels. The third level of planning is defined as a variety of studies, reports, and maps that define the goals and policies of land use in planned areas in order to resettle a specific number of people for a specific period. This level was built according to the urban master plan and consists of a set of detailed maps of the zoning and road systems in addition to the utilities for all urban areas. In order to support the planning levels, this law defines such techniques for design and management that will support traditional and modern construction patterns and determine the architectural styles and the blocks distribution for city planning. Planning is a complete set of services that integrates sanitation, electricity, communication, and gas networks. The law confirms their completeness and integration in order to implement urban planning objectives.

Urban planning law No. 3 defines the prime minister's office as the competent authority to approve the UPA's responsibility to prepare, organize, and make decisions regarding urban planning policies. The main objectives of Law No. 3 of urban planning are as follows:

- The optimal use of economic and human resources spatially to achieve the highest goals of the planning.
- Directing population growth toward the regional and local growth centers to achieve economic and social equality.
- The best use of land and protecting farmland from urban sprawl.
- Reducing migration to major cities and encouraging reverse migration
- Providing housing and social facilities that are commensurate with population growth.
- Resettling, supporting, and providing assistance to rural area residents in order to balance economic development and reduce the internal migration flow toward cities.
- Protecting the environment and balancing public facilities and services using an advanced and modern scientific methods.
- Protecting historical sites and developing the coastal areas for the tourism industry.

The law determines that the UPA is responsible for preparing and submitting a national long-term plan to the Prime Ministry. The local plans are prepared at the local and regional levels at its consultant offices prior the submission to the National General Planning Council, which in turn sends the national plan to be signed by the Prime Ministry (Urban planning regulations, article 8). Law No. 3 explains the role of authority and its branches to implement objectives of short and long-term plans.

It is significant to understand the mechanism of the decision-making process, including preparing, submitting, implementing, and enforcing the laws and regulations toward achieving the planning goals as the hierarchy of the planning system.

4.6 Policy and Decision Making Process

The decision making process follows the hierarchy of the administrative system as a part of the political structure of the country. The urban planning decisions are made by the chairman, and issued according to the establishment of the UPA in 1993.

In order to achieve the planning objectives, the chairman of the UPA authorizes the head departments of the regional planning authority with powers to facilitate the processes and ease connections with the public according to the decentralization policy of the planning system objectives. Policy-making is the highest level in the urban planning system; this is the heart of the mission, in which the authority makes, creates, establishes, develops, and evaluates the policies and plans prior to making decisions. Policy-making is a fundamental mission for UPA; it is the framework and center point in which all urban plans are converge.

The national urban planning system consists of two levels. First is the local and regional level where the information is collected and the public connects with the authority and request services. This is the sole responsibility and the main function of the UPA. The second level is the national level that handles policy and decision-making. The national level consists of the platform and the framework of the planning; at this level, the authorities collaborate to make, revise, and evaluate the planning system nationally.

At the first urban planning level, which is direct services to the public, the UPA local branches issue construction authorizations and approvals for individuals, private, and public agencies according to the law No.3 in 2001and law No. 5 in 1969 and their regulations to ensure

the implementation of urban planning laws and regulations. An individual construction approval is prepared at a local branch based on urban planning regulations in which the UPA authorizes the regional authorities at the second stage for approval, who in turn mail it back to the local branches where applicants receive their approval or denial.

Regarding individual construction, Articles No. 48 through 52 give an explanation of each allowed residential land use from the lowest to the highest density in order to manage and control the growth within and outside urban areas. Article No. 48 specifically indicates that the maximum land size of a single residential unit built in arable lands or outside the urban areas is at 450 m^2 while the maximum covered size of a unit in a built-up area is at 80% of the total size and may not exceed 8.5 m height. (The Regulations and Land Use Classification act, 2000). Compliance by residents with laws and regulations varies. Those who do not comply often exceed the maximum height of the building or add another level that has not been stipulated by the planning regulations and standards. Approval of the application and the license process depends upon completing the documents and the decision process at the local planning office.

The local UPA offices process the permit application for approvals in order to ensure that every single unit, either residential, commercial, or industrial, complies with the planning standards. This requires approval of the services such as water, electricity, sanitation, transportation, and communications. Approval is intended to ensure the implementation of town and urban planning along with the national spatial planning objectives. The law is an attempt to overcome many problems and to prevent others from occurring due to the massive urban change.

Planning policy-making can be defined in two concepts as Bracken (1981) emphasizes. The first is the traditional method that focuses on collecting information regarding the

population, housing, transportation, and employment. The second is the modern concept in which the planning authorities develop new ways and assess the impact of the plans at all levels.

In order to have an efficient and successful policy, it needs to be explicitly prepared to wisely utilize national resources by planners who are knowledgeable on how to make, implement, and evaluate such policies. In this regard, the interactive and controllable policy-making allows planners to track changes and effects of the policy and its programs in order to determine success.

Urban policy analysis, according to Bracken (1981), should have an explicit and direct focus upon the four main elements, which are making, implementation, evaluation, and effects of policies. Nijkamp (1983) emphasizes that a successful policy must be based upon a strategy, which he defines it as a set of procedures involving the selection and the sequence of tools used by authority or organization in order to achieve the desired objectives. He stresses the significance of the direction, effectiveness, efficiency, and the instruments in order to achieve the objectives of policies.

Implementation is "the process of interaction between the setting of goals and actions geared to achieving them" (Bracken, 1981, p.231). It is the interaction process linking the intended goals and the actions towards implementation. In order to advance the process toward implementing the policy objectives, it should go through a framework that composes the plans, assessment, and the examiner who evaluates the policy and its effectiveness and impacts.

The implementation in the urban planning policy is assessed based upon the outcome and the evaluation of the planning efficiency based upon the reality on the ground. The planning implementation in Libyan cities varies from one city to another to the degree that the implementation percentage of the urban planning plans in some cities as high as 80% completion

rate while others had less than a 50% completion rate (A. Almoudi, phone interview, October 15, 2014). This completion rate notes the actual result of what has been planned in each town and city and what has been implemented. The disparity occurred because many Libyan cities expanded outside of the framework of urban plans illegally in what is termed a "random expansion." This type of expansion has been the hallmark of urban growth in Libyan cities. Random expansion areas have been the main issue in contemporary urbanization due to several factors affecting the efficiency of the urban planning. The effectiveness and the implementation depend on a set of factors in the Libyan urban planning system that includes the following:

- The administrative organization of legislative and executive authorities. This has affected the planning system and weakened the policy making and implementation process through different stages through the inconsistency in administrations and decision-making authorities.
- The decision making process and the political influence over the planning system. There have been significant changes that occurred because of political interference due to the powerful legislative effect on administrative organization. The main dilemma has been the bureaucracy; it has caused difficulties for the public and inserted a lack of trust in the administrative organization.

Politics in this case is a system that consists of groups and individuals with different interests who have manipulated the system in order to gain maximum benefits. Pacione (1990) argues that a bureaucracy at the local state is the outcome and creation of the central government. This emphasizes that the power and political relationship has the main influence on decision making in modern cities, in which the interests of those individuals and groups have driven the policies. This indicates issues with the power division process from whom, when, and how the power

division obtained, which indicates the superior power of politics over administration and organizations through planning, finance, and legislation.

The influence of politics and its powerful players has led to control over the planning, development, and decision-making in terms of economic, social, and political conditions. This explains the outcome of the cities in the social and economic realms, as well as environmental problems. The best example of this influence is the finances of the national allocations for infrastructure projects, especially housing. Housing projects and expenditures for the late 2000s were a result of the political will of a group of liberals who had increased their power within the country's political system.

In addition to the impacts of political influence, economic and planning circumstances, there is a strong role of the social structure over the urban planning in particular and the planning system in general. However, the social structure is part of the national political, economic, and social aspects and conditions. Instability in the administration, which creates bureaucracy, inconsistency, and public disconnection, has been constant over decades. A. Almoudi (phone interview, October 17, 2014) mentioned that the combination of the above factors has deeply affected all urban planning levels. The basic impact is due to the role of the social structure over the policy and decision making process, and this issue has connected citizens and planners as they all are united by a bond that is stronger than the state and its administration. The role of social structure has strongly affected the political system and the decision making process for individuals and groups. [2]

The positive aspect of politics on planning is the emphasis on strengthening planning through rational politics in order to promote the economy, which implicitly will assist in putting

[2] Social structure is the role of tribalism, in which tribes have a strong influence over the politics through their involvement and loyalty to the political leadership

politics and planning on the same path towards economic growth and social justice (Friedmann, 1987).

The role of the social system has been often stronger than the policy and decision-making circles. In Libyan society, social structure is the basis of the political culture that interferes in the minutest details, such as the selection of people in different positions. Additionally, it plays the role of justifying and strengthening the political system through its presence at the highest political, administrative, and legislative positions. The role of social power is always associated with the structure of the society that is built based upon the tribal loyalty to the political power, which contrasts with the planning objectives as long as it meets the social powers' ambitions. The tribal leader's loyalty is a pledge of homage to the political leadership. It is a key factor in strengthening the political system and maintain its authority as long as possible as happened with King Idris al-Sanusi's inauguration, which was followed by the survival of Gaddafi in power for four decades through tribal protection of the political system.

4.7 Land Management and Administration

Land administration and management is a significant aspect of the urban planning process because it is the backbone of urban and economic development. Northern African countries share a similar governance of land markets and management such as laws, tenure, control, use, and taxation. Land laws and regulations are derived from *Sharia*, which was established under the Ottomans during their rule of the region. The system combines ownership of lands and buildings and is considered complicated due to the combination of religious laws and the planning regulations. It manages the ownership of very small properties where several individuals share one parcel or one building; in rural areas, it might manage an individual who owns a tree while the land has different owners (The state of African cities, 2010). The *Sharia* laws also are related to a separate entity called Awqaf (the private religious endowment), which is a part of the land management that works toward managing and protecting the property rights.

Urban land is composed of governmental-owned properties within urban limits, while individuals own the majority of surrounding lands. Despite the fact that *Sharia* is very restrictive and protective in terms of property rights, it is flexible in that it allows owners to sell their properties and open the door for informal settlements that are considered the main factor in peri-urban expansion. Expansion occurs when agricultural lands are converted to urban use. This expansion often occurs outside of the urban limit, but it is outside of UPA control, and has not been built according to the laws and regulation of the planning. However, control and prevention of urban growth missions by UPA have limited chances to succeed in protecting arable lands surrounding the cities. This issue has worsened over last two decades due to intensification of expansion and the lack of law enforcement. The accelerated expansion also comes as a result of violating the property registration procedure in which private notarial acts have transferred land

and property rights without title registration. Consequently, this has created parallel property systems through illegal transactions in the land market. This is a commonly shared concern within Libyan and Northern African cities (The State of African cities, 2010).

Urban law No. 3 stresses obtaining a license prior to any construction and not allowing any changes in the permanent buildings. However, violations have increased significantly with little law enforcement. The law indicates punishment for any illegal acts such as new building without a permit or making changes to the existing ones; results can be cancelling the construction permit, demolishing the new changes in building, or fining the violator and send him or her to trial in a specialized court.

In spite of the current laws and regulations that cover the smallest details with respect to urban growth, the problem continues on how to implement its objectives and enforce these laws and regulations. The enforcement mechanism is weak due to the lack of clarity on which authority is responsible for the mechanism supervision regarding the enforcement and penalties for violators. Changes in duties have constantly occurred between local offices and national authorities such as the agricultural land protection authority or municipal guards on how and to what extent each side is responsible (An interview with official director at UPA on protecting farmland, 07-10-2012). This has caused a gap in responsibilities among the various administrations that tackle such issues in the planning and development system generally and in urban planning in particular.

It is significant to focus on the Agricultural Protection Agency (APA) due to its important role in the urban planning system. APA is in charge of the foundations of law enforcement following the decisions of the Ministry of Agriculture and the interest of UPA and institutions associated with them. The APA provides services through its branches and offices in

different cities and towns where applications are received for construction permits. The main task of the APA is to protect agriculture lands outside urban limits, while the areas inside limits are under the role of the UPA. The APA shares tasks with different authorities and agencies in order to evaluate applications and issue approvals according to the competencies and the hierarchies of the administrative organization. This process is done with coordination between the administrations and agencies including UPA, agricultural protection agency, and utility companies.

The agency has been given its role according to the acts and laws of the agricultural protection that have set up several steps that it must employ. The first step begins with visiting the intended construction location, which is done by protection the agency office staff, where the applications are accepted prior proceeding to the agency office at the ministry of agriculture. The second step goes through the legal office for validity and conformity with laws and regulations. The general administration agricultural protection receives the full application after completing the requirements for final decision.

The supervision of the agriculture police division has a strong role in the protection of agency structure. Agricultural police are the executive arm of APA, which gets its power from the Ministry of Agriculture and Act No. 15 regarding protecting the agricultural lands. The Agricultural Police exercise their role by investigating, prosecuting, and applying judicial punishment of violators of the agricultural land protections; they also continue the follow-up process after justice has been applied to violators. However, many factors affect this structure that weaken its role including instability in legislation, in which many laws and regulations have to be revised to meet the rapid and constant changes that are occurring in agricultural lands. Furthermore, there are many irregularities and inconsistency in the administrative system, and

there are concerns about the impact of political interference over the agricultural protection agency in both the legislative and executive division levels.

This structure lacks an efficient connection with citizens, especially in terms of the incentives that contribute to the tasks of the APA. Khamis Hnaish (phone interview, April 14, 2015) stressed the need of such incentives for greater cooperation and contribution in order to have a successful APA. In this regard, Hnaish mentioned that the agency in collaboration with the ministry had been recognized in the past decade, but this program disappeared as many others have also stalled under the circumstances that have faced the country recently.

4.8 The Role of Technology

Technology plays a big role in modern management at all planning levels (Friedmann, 1987); therefore, Libya has also realized the significance of using advanced technology in governmental administrations. The General Authority has initiated the latest development for information and telecommunications. It is the highest authority that undertakes the information management in Libya, which initiated the Libyan Spatial Data Infrastructure (LSDI) as a part of the Libyan Information Infrastructure (LII). It was one of the more ambitious projects in the last decade towards advanced and efficient information management in the country. This authority was intended to combine about 17 agencies including the infrastructure program, information agency, and the census agency. However, the initiative, as happened with many others, was under the leadership of influential names in the political system and the project did not succeed due to lack of professionalism (Sorensen & Sayegh, 2007). In an attempt to develop technical support for the UPA, the planning ministry established a project in collaboration with the United Nations Habitat office in Tripoli to provide an advanced computation system to support spatial planning plans and projects. UPA realized the importance of modern technologies in the

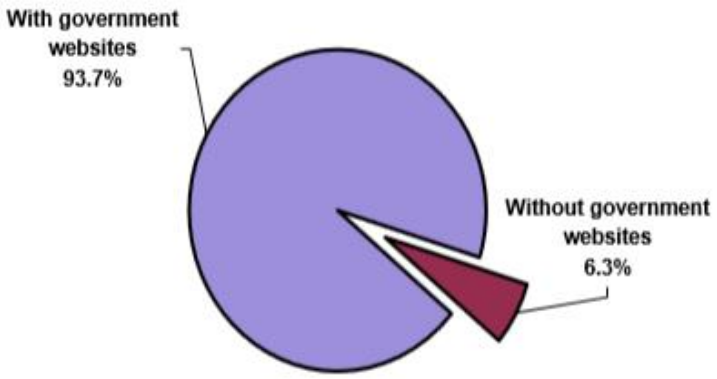
development of planning policies and decision-making processes. The required techniques include hardware and software needed as well as staff training; however, the results have been modest and unsatisfactory, as Almoudi stated in an interview, due to the bureaucracy and delay in funds (Interview with Abdulhafid Almoudi, Third Generation Plan Director, October 2014).

Libya has had a numerous master plans and which never been implemented. Recently, most of the authorities, agencies, and ministries have admitted that the technical and information connection has never accomplished due to the lack of cooperation between the various official bodies and decision-making levels. Mustafa Albousaifi (phone interview, November 13, 2014) described it as the absence of the functional coordination and the institutional linkage.

In the same regard, public participation has been a major concern that is needed to support successful urban planning; therefore, the third generation plan pays special attention to public participation, which was considered one of the weaknesses of the two previous generation plans. Despite the fact that the third generation plan has focused on communication with the public, this remains one of the major issues in planning in general and urban planning in particular. The only communication between the public and the authorities generally and the UPA in particular occurs through the general application for permits and approvals. It is one of the critical issues of information development and management in which the role of the civil society as well as the private sector is excluded (Sorensen &Sayegh. 2007).

In this context, the condition of communication, one of the instruments toward improved urban planning, was emphasized by the electronic government reports issued by the United Nations. E-Government is a comparative readiness of world countries, which measures the services delivery, ranking, and the level of digital public service at the present and the future time (United Nations, E-Government Survey, 2003). Figure 6 shows the percentage of

governmental online service delivery. According to the E-Government survey report (2005, p.76) only 12 countries (6.3%) of the UN membership do not have an electronic service delivery. Libya is one of those countries, as Africa remains at the bottom of the world's E-Government Development Index with 0.2661 comparing to the world's average of 0.4712.



Source: UN E-Government, 2005, p.76

Figure 4.6 Government Online Service Delivery 2005

The Libyan ranking has been unstable in terms of the E-Government Development Index. In 2005, Libya ranked 188, and dropped to 191 in 2012 then slightly improved to 121 in 2014. There have been some advancements in the electronic service in the governmental agencies and institutions such as the National Information Authority. However, UPA does not provide an electronic service online and the information on its website is very limited.

A successful planning system can have a powerful influence if it has strong technical support in addition to the role of policy improvements as Herbert Simos argues that a planning system has to improve professionalism, legislation, and engaging public participation towards planning effectiveness and efficiency (Friedmann, 1987).

It is apparently that, the urban planning system has been strengthened by the foundation of existing institutions and its administrative structure and human resources. In addition, there is a physical component including buildings and equipment, as well as the urban planning branches and offices associated with the existing massive land use plans for the majority of towns and cities. This strength has been supported through legislation based upon the planning processes. However, there are many weaknesses in the urban planning system. For instance, one weakness is the lack of professionalism amongst the staff of the UPA and its local and regional branches and offices. In this regard, there are few actual planners who are specialized in planning related majors and experiences (Abdulhafid Almoudi, phone interview, October, 17, 2014). The small number of specialized planners has led to a massive presence of staff with unspecialized backgrounds at the authority who are involved in the policy and decision making processes. Furthermore, the impact of centralization on urban planning has weakened the enforcement instruments' ability to overcome expansion and violations of urban planning laws and regulations. The delays in the implementation of the urban projects indicate the need to revise the governmental administrative organizations and their structure in order to cope with the rapid changes that occur in the field.

It is significant to mention that urban planning policies in most cases are a reaction to the issues that occur in the field; this explains the lack of advanced planning responses to issues and challenges. The urban planning system has to liberate itself from the traditional approach that only considered population, housing, and transportation, and instead move towards a modern method that also takes in account assessment of policies, programs, and plans, and their direct impact on the citizens' lives and an indirect impact on land use, landscape, and the environment.

Chapter 5: Postscript

5.1 Introduction

This research focuses on urban growth and management of Tripoli, Libya. The main focus was to understand the nature and the factors behind the rapid urban growth of Libyan cities in general and Tripoli in particular. This study involves an introduction and three core chapters and concludes with a discussion of the final scope of the research.

The introduction consists of the background of the study, research questions, and the literature review. The literature review section was significant in terms of understanding the theories, concepts, and elaborations of urban growth, urbanization, and population, in which scholars such as Pacione (2005) and Myers (2011) have critically developed and emphasized the factors, which distinguish African urbanization. I relied on their concepts in order to identify the main factors behind the urban growth, expansion, and production that present a distinct picture of how population and economic growth have collaborated in urban expansion to make Africa one of the fastest growing and urbanized continents in the world.

The second chapter discusses and examines the similarities and differences within the region and the continent, in which Libyan urbanization tends to be similar to the African urbanization in many aspects such as natural growth, economic growth, and immigration. Thus, the Libyan urbanization rate has exceeded the majority of the countries in the continent, reaching 80%, which is the highest in Africa. This phenomenon has distinguished the far north and far south of Africa as the fastest and most urbanized African regions. Those urbanized regions have been super active economically and politically, as they were developed by colonizers and became centers of capital in the post-colonial era. As such, the Libyan rapid urban growth has been a concern for the authorities for a long time due to the massive changes in the economic,

social, and political system. The physical environment has affected the concentration of population, as 90% of the country's area is desert. The independence of the country and the discovery of oil and its boom revenues assisted in accelerating the economic development as a significant factor to the urban planning system and the country's advanced and accelerated urbanization rates. Beall and Fox (2009) have discussed this concept and distinguished between the economic growth and economic development for the study of urbanism and the social and economic transformation between rural and urban areas. This led to the so-called urban bias, where urban centers gained the lion's share of attention and became attractive places and the final destinations of internal and external migrants. This has been a big source of urban expansion due to the large number of people from other areas and foreigners, who prefer to reside within city fringes and peripheries. The concentration of population has resulted in urban duality, as Tripoli and Benghazi have been the largest cities in the country.

The third chapter focuses on the urban change in Libya including the population growth within the greater Tripoli boundaries and the physical growth of urban areas. This chapter demonstrates the history of urban centers during colonial and post-colonial eras and their role in the planning system. It discovers the collaborations of the Ottomans and Italians as they were the most effective players in establishing the contemporary Libyan urban planning system.

It was significant to illustrate the urban growth through the combination of tradition and modernity within the urban context that was introduced by Saqqaf (1987) and his definitions of the old and modern city divisions. He has clearly distinguished between the heritage part of the city where values and principles were exposed and appeared, and the new fabric, which has different styles and patterns outside of the walls of the Medina. It is an on-going argument amongst planners whether the traditional or the modern approach has been effective in terms of

urban planning. This argument has been an issue within urban planning authorities, which I mention in this research as the negligence of the old city heritage favoring the modern planning approach.

An analysis of urban change was done based on the census data and satellite imagery, which was added into ArcGIS to produce maps of population density, population growth over time, and the multi-temporal land cover classification. This work depicted the actual growth of the urban areas over time, which is significant due to the improved accuracy and the visual interpretation by the user as the remote sensing and GIS techniques improved consistently. The maps provided a visualization of the population and urban change and indicated that the rapid growth has spread out of the intended planned areas or the city limits toward urban peripheries and way beyond that expected by urban planning generation plans. It is noteworthy to mention that the attractiveness of Tripoli has attracted a large and continuous number of migrants as the country lacks a consistent and concrete policy to control the growth and unevenness between rural and urban areas. This has led to a massive expansion in the urban areas even greater than the limits of Greater Tripoli, in which the districts of Tajura, Janzur, Ain Zara, and Bin Gashir have gained a high percentage of population over the last two decades. Furthermore, the urbanization of Libya has overrun arable and agricultural lands in favor of urban services.

These circumstances have led urban planners and all whose work is related to the policy to direct their professions towards comprehensive planning policies. The planning policies and urban laws and regulations were explained in the fourth chapter.

In the fourth chapter, I rely on Bracken's (1981) theory of analyzing the urban planning policies as he stressed certain elements for successful policy and decision-making processes. The analysis was applied to the philosophy and the role of the Urban Planning Authority in the

planning system, the successful policy and urban planning strategies, and the planning issues. As explained in this chapter, there are several problems that have existed and deeply affected the initiatives and the projects to manage, control, and predict the expansion of the urban areas. The interviews conducted were significant to understanding those issues within the urban planning and the national planning systems, including the lack of professionalism amongst the planners tackling the urban planning issues. Furthermore, there is an urgent need for more advanced training and knowledgeable staff due to the unsatisfactory outcome according to the third generation plan recommendations. This has been a part of the on-going projects such as the collaboration with UN-HABITAT program and the direct connection with authorities at the national level.

The main issues of the planning system and the urban planning in particular are the political interference and the role of social movements, which were emphasized by Friedmann (1987), and Forester's (1988), especially in the latter's concept of information as power in the hands of planners and how misinformation becomes an issue within the planning system at large. Indeed, these are the major concepts of the role of power, internally among planners and externally within the political system and its relationship to urban planning and development. The political influence and the social movements are recognized as the actors in the planning field in policymaking and implementation, especially in the societies where social structure is the backbone of the whole system.

5.2 Planning implications and challenges

This section is formulated based upon the extensive concept of Herbert Simon, in which he developed the approach of exclusivity where professionals and legislators should engage in raising the public concern toward effectiveness and efficiency (Friedmann, 1987). This concept

is complemented by Stafford's, of combining organization in a timely manner, technology, and professional judgment (Friedmann, 1987). These concepts should be applied in the planning system towards a comprehensive plan in order to implement the urban planning objectives. These concepts include transparency, democracy, and equal opportunity approaches.

Political interference has been a persistent problem in planning. Libya, in particular, has suffered from an inconsistent political system and on-going instability in its planning system and in enforcing laws and regulations. The pre-independence period had some challenges related to the social structure and establishing federalism, which deeply impacted the national unity from 1951 until 1963 when King Idris unified the country by abrogation of the political statues of the provinces (Allan, 1982, p.131). Unfortunately, this action also magnified mistrust between the regions of Tripolitania, Cyrenaica, and Fezzan, which comprised the Libyan federal state prior to 1963. After a few prosperous years under the monarchy, a military coup took power and transferred it to hands of a few young officers in a tragic and dramatic change in 1969. That group of officers claimed unity, strength and dignity for Libyans through economic and social transformation. This phase formed a new system that was totally different from the monarchy and led the country to the first socialist regime in Libya, which had been effective economically until late 2000s.

5.3 The Political Culture and Development

Libya is a relatively large country divided geographically into three regions, each of which has been historically dominated by several powers according to the regional context. While Phoenicians settled in the western region, and built the three cities of Tripolitania, the Greeks built the five cities of Cyrenaica. This caused a sort of social disparity, with feelings of oppression by the leadership in the capital, between the two main regions, while the third region,

Fezzan province, was among the least influential in Libyan politics. These differences reflected the attitudes of the citizens along the history of the state as the nature of the Libyan geography, the dominance of desert and tribal disconnection, made barriers that divided the country. Indeed, the country appears to have different dialects, cultures, and attributes, which have been utilized by a minority pursuing political, economic, and social interests.

The introduction addresses the discussion on how Libyan politics have been formed in pre and post-independence history of the state and what the role of the internal and the external powers in general have on the planning and development process particularly.

As the pre revolution era lasted for four decades, the political system influenced the economic and social structure and formed the overall attitudes of Libyans with inconsistency and instability internally and externally. Obeidi (2001, p.2) stated that the regime objective was to insert, strengthen, and consolidate the political values in Libyan society through the education and social systems: "During the 1950s and 1960s, for example, Pan-Arab nationalism was orchestrated through the school system, which affected political life in Libya strongly and effectively."

This process of consolidating the regime's theory became associated with eliminating and criminalizing the political parties through dividing the tribes, imposing school curriculum, and the control over associations (Clement, Saleh, 2014)

Indeed, the Libyan national policy in the era of Gaddafi neglected the country internally and focused on foreign policy, for decades. Since he took power in Libya, he focused on how to control countries and regions through economics, utilizing the oil revenue surpluses and hoping to spread his political theory and apply it in those countries. That policy was proof of the continuous attempt to escape from the failure in the internal politics and find new outlets in

each period through internal revolution on all former regime structures economically, socially and militarily.

The same approach continued attempting to strengthen the political position by engaging in pointless wars in African countries, like the Chad war in the late 1970s and early 1980s and sending the troops to Uganda to support the dictatorship of Idi Amin. Ronen (2008, P.174) argues that as a result of the failure in the Chad and Uganda wars, Qaddafi shifted his interest toward other parts of Sub-Saharan Africa where he could implement his foreign policies in search for domestic prestige. In 2002, in his meeting with Edris Deby, then President of Chad, Qaddafi stated, "weapons will be laid down and we will move toward development in Tibesti and construction of Chad, Libya, and Africa." The internal conditions of Libya were influenced by the foreign policy during the era of Qaddafi. He favored prestige over development, as he stated in different media interviews, "our mission is to free people everywhere according to [his] third way theory". This policy neither accomplished its objectives in Libya nor in any Arab nation or African countries

All those wars, shifts, and changes ended in defeats and eventually in a terrible surrender by the regime, which was seeking survival through political and economic concessions in order to retain the opportunity for power forever.

The first internal power in Libyan politics is tribalism. The tribal system is the backbone of the country's social structure and the influential factor in the history of politics. The tribal system is composed of tribes, clans, and minorities, which together represent the national social fabric. The strong influence of the tribal system derives its strength from the social structure of tribes and clans, which have the biggest role in shaping the social and political system of the state through the administrative system, which is linked to the tribal force numerically and

geographically. This growing role of tribalism has a profound impact on the political decision at all levels where tribal influences reach a decision-making process, expand its influence, and deeply affect the geographical map of regional development strategic projects. It is unfortunate that this growing influence can be described as the most powerful in the administrative structure to the extent that many of the problems and crises resolved within the tribes and not resolved administratively and therefore tribes represent a strong power and superiority and undermine the existence of the state. The foundation of the influence is tribal loyalty, where this loyalty leads people to prefer and favor their tribes rather the state. In many cases, the loyalty is the standard for governmental positions and even sensitive ones regardless of efficiency and practical experiences of the candidate. This has been the negative side of the tribalism and its direct impact on the planning for decades, which has been the concern for urban planning system, as mentioned by several interviewees at UPA.

This is the biggest and deepest issue and challenge to the post revolution phase in order to rebuild the national structure and maintain the unity and inclusivity. This has influenced the new political and social system, it is social-based division based on political confrontation (Clement and Saleh, 2014). This has occurred due to the new secularism-Islamism competition, which has deeply broken up the national unity that has never been stronger.

As a result of these social and political impacts on the planning system and on the urban planning system in particular, these has been an issue with the quality of services and the transparency in the governmental administrations and institutions. As mentioned by some interviewees, the corruption has been deeply inserted in most of the sectors.

Based on the Transparency International data, Libya is suffering corruption, which has grown substantially since the beginning of the last decade. Table 5.1 shows the corruption index

ranking for Libya up to 2014. The index measures the perceived levels of public sector corruption as the cleanest country begins by 1 and highest score out of 100, and the most corrupted at the bottom with the highest number such as Haiti 176 and lowest score of 8. This includes the post revolution period, which has affected the situation as the central government has been weakened and increasing the influence of the corruption networks.

Table 5.1 Corruption Rank of Libya

YEAR	2003	2006	2007	2009	2011	2012	2013	2014
RANK	116	117	131	130	168	160	172	166

Source: Transparency International

The statistics put Libya in the bottom of the international ranking index at 116 in 2003, and it kept descending to 131 in 2007. Corruption continued to increase in the state and its institutions to the point where the country reached 168th in 2011. The spread of corruption in the governmental institutions often is linked to the weakness of the administration due to the lack professionalism and law enforcement, which has resulted in the decline of services provided to citizens and collapsing the administrative structure.

In terms of urban planning, there has been resistance by the political system and the achievements were limited to projects that the government provided with full support assisting the urban planning authority and related authorities during the last two decades.

There have been disparities in terms of achievements between the political role and the success of urban planning objectives with the exception of a small number of projects that are consistently developed based upon the political system. It should be noted that, there are some projects were completed by the strength and political will, such as the Man-Made River, which planned to bring in water from the south to the north. In addition, a limited number of cities, such as the city of Sirte, which is considered a stronghold of the regime, have been developed

successfully in terms of infrastructure, water, and agriculture projects. This gap between the political and the planning authorities has to be filled with trust, collaboration, and a solid decision-making process. It is significant to adapt sustainable development plans that take in consideration the changes in social and economic conditions and protecting the environment. In this regard, Myers (2005) mentioned the main ways to manage cities in Africa, including plans and policies, sustainable development, and good governance, especially with political and social differences. Sustainable development requires good governance that considers the need for balanced plans and policies that deal with, predict the changes, develop, and advance the planning system to the level that policies and decisions are constant, up-to-date, and accurate.

5.4 Further Research

This research cannot claim that it covers all the intended objectives due to some limitations such as data availability and accessibility such as high-resolution satellite imagery and up-to-date population and migration data.

This study investigated the main factors that have driven the rapid growth of the City of Tripoli, which helped to understand the role of each factor based on theoretical framework. Fully understanding the urbanization and the direction of the growth is considered an area for advanced future research. It is significant for geographers and urban planners to understand the role of urbanization such as the socio-economic factor including the economic changes and their effects on population and on people's lives, which have been predominantly affected by the growth and its speed within urban areas. Additionally, it is important to focus deeply on the migration flows and have concrete and detailed studies with well-developed technology to organize and provide regional and national authorities with accurate data for current and future projects. The topic of technology has been significant for advanced and successful urban

planning systems in the developing countries; Friedmann (1987) stressed the role of technology and scientific advancement in urban planning systems, which our urban planning authorities have to focus on in order to achieve their objectives. This has been a big concern that was expressed by most of the urban planners and the governmental officials. Building and developing a strong technological base will help in accessing data and using it properly and in eliminating the corruption and magnify the efficiency and effectiveness of the urban planning system.

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